EFFECTIVENESS OF TALC VERSUS OLIVE OIL ON PREVENTION OF DECUBITUS ULCER AMONG BEDRIDDEN PATIENTS IN CRITICAL CARE UNIT, GOVT. RAJAJI HOSPITAL, MADURAI.

M.Sc (NURSING) DEGREE EXAMINATION

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A dissertation submitted to

THE TAMILNADU DR.M.G.R.MEDICAL UNIVERSITY,

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In partial fulfillment of the requirement for the degree of

MASTER OF SCIENCE IN NURSING

OCTOBER 2017

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ABSTRACT

Title: Effectiveness of Talc and Olive Oil on prevention of Decubitus ulcer among intervention group I and intervention group II bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai. **Objective**: To compare the effectiveness of Talc and Olive Oil on prevention of Decubitus ulcer among intervention group I and group II bedridden patients. **Hypothesis:** There is a significant difference in the post test level of decubitus ulcer risk between intervention group I and intervention group II bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai. **Conceptual frame work**: Modified Self Care deficit theory. **Methodology:** Quantitative approach -True experimental - pre test post test design. Sample size was 60 (30 in group I and 30 in group II), selected by simple random (lottery) sampling technique. Modified European Pressure Ulcer Advisory Panel (EPUAP) grading system for decubitus ulcer was used to assess pretest level of decubitus ulcer risk. Application of 8-10 gm of talc to group I and application of 5-8 ml of olive oil to group II while effleurage and vibration techniques of back massage for 10-15 mts three times a day along with 2^{nd} hourly position changing and heel elevation on pillow for 7 consecutive days. On the 8^{th} day post test was done by using the same tool. **Findings:** The findings revealed significant reduction in the level of decubitus ulcer risk after talc and olive oil intervention, which was confirmed by paired 't' test. The 't' value is 3.55 and 5.59 respectively at $p < 0.001$ level of significance. But comparing both, olive oil is most effective than the talc. **Conclusion**: This study statistically proved that olive oil was effective than talc for reducing the risk of decubitus ulcer among bedridden patients.

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INTRODUCTION

CHAPTER - I

INTRODUCTION

"Prevention is better than cure"

Health is very important for every human being to lead a happiest life. Prevention is better than cure is the statement which insists the early detection, health education for the identification of signs and symptoms of a disease for the health promotion and disease prevention. Secondary and tertiary care is the type of care in which the tertiary care is more important due to the long stay of the patients in hospital. Patients admitted in critical care unit with acute, chronic diseases for intensive care. Nowadays, the trend is to reduce the stay days in the hospital for cost effectiveness and to prevent hospital acquired infections. Even which the chronic and critically ill patients have to stay in the hospital for more days like Cerebro Vascular Accident, Intracranial hemorrhage, poisoning, etc. During the chronic bedridden period, patients may get so many complications; one of the life threatening complication is decubitus ulcer.

Decubitus ulcers, also known as pressure sores or pressure ulcer or bedsores are localized damage to the skin and underlying tissue that usually occur over a bony prominence as a result of pressure, or pressure in combination with moisture, shear and friction.

-The International NPUAP-EPUAP (2009)

The most common sites are the skin overlying the sacrum, coccyx, heels or the hips, but other sites such as the elbows, knees, ankles, back of shoulders, or the back of the cranium can be affected.

Pressure ulcers are caused by unrelieved pressure applied with great force (shear) over a short period or with less force (friction) over a long period that disrupts blood supply to the capillary network, impeding blood flow and depriving tissues of oxygen and nutrients. Shear is also a cause, as it can pull on blood vessels that feed the skin. Decubitus ulcers most commonly develop in individuals who are not moving about, such as those being bedridden.

Commonly known factors that increase the risk for developing pressure ulcers include immobility, circulatory problems, infections, incontinence, passivity, and decrease in consciousness. Sometimes pressure ulcers cause intolerable suffering for the patient. They often are relapsing, painful, and represent a risk for secondary infection. They may affect activities of daily living and social relations.

Pressure ulcers develop when capillaries supplying the skin and subcutaneous tissues are compressed enough to impede perfusion, leading ultimately to tissue necrosis. Since 1930, researchers understood that normal blood pressure within capillaries ranges from 20 to 40 mm Hg; 32 mm Hg is considered the average. Thus, keeping the external pressure less than 32 mm Hg should be sufficient to prevent the development of pressure ulcers.

However, capillary blood pressure may be less than 32 mm Hg in critically ill patients due to hemodynamic instability and co morbid conditions; thus, even lower applied pressures may be sufficient to induce ulceration in this group of patients. Pressure ulcers can develop within 2 to 6 hours. Therefore, the key to preventing pressure ulcers is to accurately identify at-risk individuals quickly, so that preventive measures may be implemented.

The decubitus ulcer will take more time for healing other than ordinary ulcer like surgical wound, traumatic ulcer. Primary prevention is to redistribute pressure by regularly turning the person. The benefit of turning to avoid further sores is to be proved since the 19th century. In addition to turning and re-positioning the person in the bed, heel elevation with pillow, back care and keeping the skin free from exposure to urine and stool is very important.

Decubitus ulcer develops when blood supply to the skin is cut off for more than two to three hours. As the skin dies, the bed sore first started as a red painful area which eventually turns purple. Left untreated the skin can break open and become infected. A bed sore can become deep, extending into the muscles. Once bed sore is develops, it is often very slow to heal.

Decubitus ulcers are a serious health issue for patients in all kinds of health care settings. Intensive care patients in particular tend to be at a higher risk to develop decubitus ulcer and prevention in the intensive care population continues to be a major challenge in many hospitals.

If we are not reducing the risk of decubitus ulcer, it will develop within few hours of immobilization and it leads so many life threatening complications such as sepsis, cellulitis, bone and joint infections, and cancer (squamous cell carcinoma will develop in chronic, non healing wounds).

The costs of treatment for decubitus ulcers are also inconsiderable and expensive. Cost of its treatment is two and a half times more than the cost of preventing them. Hence, prevention and proper treatment deserve greater attention.

Various preventive measures are being used in nursing practice. To address the prevention and treatment of Decubitus ulcers in a more systematic way, a set of national guidelines based on expert opinions was developed in 2015, and revised in 2016, by the Dutch Institute for Health Care Improvement. The National Pressure Ulcer Advisory Panel (NPUAP) clinical guidelines were developed by an international team of over 100 clinical specialists. The guideline includes recommendations on strategies to prevent decubitus ulcers including the use of pressure redistributing support surfaces (e.g. air cushion on buttocks, water mattress, and air mattress), repositioning and maintaining back care along with heel elevation on pillow. Bedsore can be prevented by keeping skin clean and dry, re-position every two hours, and using pillow and soft item that relieve pressure.

The National Pressure Ulcer Advisory Panel (NPUAP) is celebrated World Wide Decubitus ulcer Prevention Day on November 17, 2016. The objective is to increase national awareness for pressure injury prevention and to educate the public on prevention of decubitus ulcers.

The following precautions should be taken by the health care providers to reduce the risk of decubitus ulcer, but too often fail to undertake: An appropriate, thorough and systematic assessment must be made to identify the risk for developing a pressure sore; The patient should be bathed appropriately; The patient's incontinence should be assessed and treated to assure that moisture on the skin does not contribute to the development of a pressure sore; Appropriate nutrition and hydration must be maintained; Repositioning of the patient should occur with a frequency to assure that the pressure is adequately relieved; Use of appropriate support devices should be maintained to relieve pressure from pressure points; Postural alignment, distribution of weight, balance and stability, and pressure

relief should be considered when positioning persons in beds; Appropriate lifting devices and techniques should be used to assure that shear and friction related injuries are avoided; Health education should be given to the patient, family, and caregivers on preventive measures to be taken to avoid pressure sores, and appropriate documentation of such measures to know the prognosis.

Nursing care includes providing comfortable bed without moisture and wrinkles, frequently changing the position, heel elevation with pillow and scheduled help with urinating and urinary catheter care, frequent diaper changes, applying protective lotions or powder for massaging to improve the blood circulation and promote healthy skin.

Protecting and monitoring the condition of the skin is important for preventing decubitus ulcers and identifying stage I decubitus ulcers early so that we can treat them before they worsen**.** Clean the skin with mild soap and warm water, gently pat dry and protect the skin. Use talcum powder to protect skin from excess moisture. Change bedding and clothing frequently and watch for buttons on the clothing and wrinkles in the bedding which irritate the skin. Inspect the skin daily to identify vulnerable areas and early signs of decubitus ulcer; manage incontinence to keep the skin dry.

The protection of skin integration is the main way of bedsore's prevention. Now, some methods like frequently changing the patient's position and using particular support surfaces are useful for preventing decubitus ulcer. The utilization of talc, coconut oil, medicated powder have been used for skin soothening.

Olive oil also one of herbal products which has been used to protect the skin and maintain skin integration in turn the prevention of decubitus ulcer.

Olive oil has low viscosity and many medical properties, including anti-nociceptive and anti -inflammatory, and anti-neurodegenerative effects; Olive oil also has micro constituents which have shown antioxidant properties and capacity to improve endothelial function.

Olive oil is composed of 98% triglycerides, including predominantly monounsaturated oleic acid which has been proven to be essential for skin maintenance and this may accelerate the recovery and healing process of wound. The roll of oleic acid is a key feature within the reconstruction of cell membranes, providing higher smoothness to the dermis by restoring skin humidity levels, thus moisturizing the skin and providing it with elasticity. Besides such oil component as phenolic compounds and chlorophyll have a high antioxidant and anti-aging effects, apart from accelerating the dermis healing process. Moreover, vitamin E is included in the oil composition which is the excellent source of protection against the free radicals causing cell oxidation.

Many pulvis form products have been used in health care settings for therapeutic treatment like preparation of Oral Rehydration Solution (ORS) and bifilac sachet for diarrheal patients, parenteral (Intra muscular or intravenous) antibiotics to treat infections, and topical application of magnesium sulphate to treat thrombophlebitis.

Likewise Talcum powder is a cosmetic product made from finely ground talc, an extremely soft mineral. Talc composed of magnesium silicate, calcium carbonate, fragrance and dipropylene glycol. Talc's primary role is as a moisture absorber. By sucking up moisture from the surrounding area, talcum powder keeps the skin dry. This can reduce the risk of rashes and chafing from sweat, urine, and other bodily secretions, and it also increases comfort in hot weather.

1.1 Need for the Study

In hospitals, health care professionals deliver care to increasingly critical patients and with higher complexity levels due to the greater survival of patients with chronic illnesses and traumas. In these conditions, the individuals are more susceptible to get complications which are risk, including hospital infections and decubitus ulcer. On the other hand, patients are increasingly aware of their rights to receive high-quality care and are more demanding regarding the products and services offered by health institutions.

World incidence based on WHO survey, decubitus ulcers with co-morbid conditions resulted in 29,000 deaths in 2013 which was increased to 38,000 deaths by the year 2016. This survey shows that each year, more than 2.5 million people in worldwide develop decubitus ulcers due to critical illness.

In India, incidence rate (2015) of decubitus ulcer at acute care settings: 0.4% to 38%; long-term care it is 2.2% to 23.9%, home care it is 0% to 17%. Prevalence rate of decubitus ulcer is 8.3% to 22.9%. In acute care 10% to 18%, in long-term care it is 2.3% to 28%, and in home care it is 0% to 29%. Over all more than 1 million cases are developed decubitus ulcer each year in India.

In Tamilnadu, prevalence rate of decubitus ulcer, average of 18.1% of patients are getting decubitus ulcer in hospitals as per annual state prevalence surveys, conducted in 2015.

In Madurai district, prevalence rate of decubitus ulcer as per annual district survey conducted in 2016, average of 6.3% to 20.9%. In acute care it is 6% to 10%, in long-term care it is 15% to 28%, and in home care it is 10% to 30%.

The costs of prevention and treatment of decubitus ulcers are inconsiderable. Estimations for 2016 revealed that more than 1% of the health care budget in the India

was spent on Decubitus ulcers care. Hence, prevention and proper treatment deserve greater attention.

With regard to injuries to skin integrity, Decubitus ulcers in hospitalized patients represents an important problem, due to the high ratios found and the emotional and financial costs they entail. Decubitus ulcers entails high costs for the patient, family, hospital, health institution and society as a whole. This condition demands continuity and extension of care beyond the end of hospitalization. It entails socioeconomic consequences for the country and the health system, as it increases morbidity and mortality, impairs the patients and families' quality of life and generates more spending on resources that often are already scarce.

A study conducted in intensive care unit, PGI institution, Chandigarh by health experts in the year of 2015, source from PGI journal has highlighted the incidence of decubitus ulcer is highest among those admitted to ICUs, 2408 patients from various departments were enrolled in the study , results showed that 6% developed bedsore. Further, 34.8% patients were at 'very high risk', 38.3% were at 'high risk', 15% were at 'moderate risk', and 23% were at 'risk' of developing bedsore. The majority of those who had developed decubitus ulcer were from the ICUs (9.4%)

In the international sphere, there are various clinical practice guidelines, with orientations for Decubitus ulcer treatment and prevention, use of interdisciplinary approaches and educational programs with a view to the implementation of evidence-based practice. Effectiveness of Talc and Olive Oil which includes providing comfortable bed and frequent position changing, back care, heel elevation on pillow etc., is essential for reducing the risk of Decubitus ulcer

Prevention involves identification of patients at risk and providing appropriate nursing care. Hospital need to develop proactive strategies to assess patients for

Pressure sore susceptibility and provide the right nursing care to prevent pressure sores developing. Because skin is a sensory organ and plays a major role in communication with others and self image. Prevention of decubitus ulcers depends on the close observation, appropriate nutrition and effective nursing care.

The Critical Care Units are occupied with critically ill clients those who are suffering with serious medical conditions like Poisoning, Cerebro Vascular Accident, Intra Cranial Hemorrhage, and Cardio Respiratory Failure, Motor Neuron Diseases and Myasthenia gravis, etc,. In critical care units most of the patients are in chronic bedridden because of their illness and they are more vulnerable to get decubitus ulcer due to their immobility and immunocompromised status. So the researcher wants to do a study on preventive aspect of decubitus ulcer among bedridden patients in critical care units.

From the various literature findings it is apparent that there is more benefit with the use of traditional based practices like topical application of coconut oil, olive oil, talc and medicated talc, etc. while back massage for prevention of decubitus ulcer. So the researcher get an idea to conduct a study on the effectiveness of talc and an emollient olive oil in preventing decubitus ulcer among bedridden patients.

Thus, the purpose of the study was to determine the effect of talc and topical olive oil on prevention of bedsore in critical care unit's patients.

1.2 Statement of the Problem

A study to evaluate the effectiveness of Talc vs Olive Oil on prevention of Decubitus ulcer among bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai".

1.3 Objectives

1. To assess the level of Decubitus ulcer risk among intervention group I and group II bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai.
2. To evaluate the effectiveness of Talc on prevention of Decubitus ulcer among intervention group I bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai.
3. To evaluate the effectiveness of Olive Oil on prevention of Decubitus ulcer among intervention group II bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai.
4. To compare the effectiveness of Talc and Olive Oil on prevention of Decubitus ulcer among intervention group I and group II bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai.
5. To associate the level of Decubitus ulcer risk among intervention group I and intervention group II bedridden patients in Critical Care Unit with their selected socio demographic variables and clinical variables.

1.4 Hypotheses

H_1: There is a significant difference between pretest and post test level of Decubitus ulcer risk among intervention group I bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai.

H_2: There is a significant difference between pretest and post test level of Decubitus ulcer risk among intervention group II bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai.

H_3: There is a significant difference in the post test level of decubitus ulcer risk between intervention group I (Talc) and intervention group II (Olive Oil) bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai.

H_4: There is a significant association between the level of decubitus ulcer risk among intervention group I and group II bedridden patients in Critical Care Unit with their selected socio demographic variables and clinical variables.

1.5 Operational Definitions

Effectiveness:

In this study, it refers to the outcome level of intended result after providing effleurage, vibration techniques of back massage with talc to intervention group I and olive oil to intervention group II along with 2nd hourly position changing, heel elevation with pillow, and it is measured by using **Modified European Pressure Ulcer Advisory Panel (EPUAP) grading system for decubitus ulcer.**

Talc

In this study, Talc refers to ponds dream flower talcum powder which is readily available product and it composed of magnesium silicate, calcium carbonate, fragrance and dipropylene glycol; application of 8-10 gm while providing effleurage, vibration techniques of back massage for 10-15 mts thrice a day.

Olive Oil

In this study, olive oil refers to the oil prepared from olives, which is readily available product and it composed of 98% triglycerides and 0.6% free fatty acids, 0.4 % glycerol, 0.5 % phosphatides and 0.5 % sterols etc; application of 5-8 ml while providing effleurage, vibration techniques of back massage for 10-15 mts thrice a day.

Prevention of decubitus ulcers

In this study, it refers to reduction of risk of decubitus ulcer by selected nursing intervention such as position changing 2nd hourly, and heel elevation with pillow along with back massage for 10-15 mts with the use of 8-10 gm of talc to intervention group I and 5-8 ml of olive oil to intervention group II three times a day

for 7 consecutive days among bedridden patients and it is measured by using European Pressure Ulcer Advisory Panel (EPUAP) grading system for decubitus ulcer

Bedridden patients

In this study, it refers to the patients who are unable to change their position or move their body or body parts independently and who are in high risk based on Braden decubitus ulcer risk assessment scale.

Critical Care Unit

In this study, it refers to the ward that deals with acute and serious medical condition in which the patients are kept under continuous monitoring and immediate care.

1.6 Assumptions

Bedridden Patients may have different risk level for developing decubitus ulcer

1.7 Delimitations

This study limited to

- Bedridden patients in Critical Care Unit.
- Data collection period is 4-6 weeks duration

1.8 Projected Outcome

Talc and Olive Oil will help to reduce the risk of Decubitus ulcer

REVIEW OF LITERATURE

CHAPTER – II

REVIEW OF LITERATURE

A Literature is an account of what has been already established or published on a particular research topic by accredited scholars and researchers.

(University of Toronto, 2001)

A good literature review is comprehensive, critical and contextualized. That means that it will provide the reader with a theory base, a survey of published works that Pertain to your investigation, and an analysis of that work. It is a critical, factual Overview of what has gone before.

This chapter deals with the information collected to the present study through published and unpublished materials, provided the foundation to carry out this study.

This chapter is divided in to two parts;

Part –I- Review of literature

Part-II-Conceptual framework

Part-I –Review of literature:

The review of Literature of present study is organized and presented as below

2.1 Review of literature related to Decubitus ulcer

2.2 Review of literature related to Effectiveness of Talc on prevention of decubitus ulcer

2.3 Review of literature related to Effectiveness of Olive Oil on prevention of decubitus ulcer

2.1 Review of literature related to Decubitus ulcer

Forni C et. al (2015), conducted a cohort study regarding the incidence of heel pressure sores among 216 patients with leg casts and also the associated risk factors at the Rizzoli orthopedic hospital in Italy. The researcher found that 17.6% (38 subjects) developed a pressure sore: 16/124 in orthopedic wards; and 22/92 in cancer care units. The related risk factors of pressure sore were noted which are administration of anti-neoplastic drugs ($p = 0.033$); skin redness before cast application ($p = 0.001$), reported symptoms after the application ($p = 0.005$). Most of the pressure sores were mainly in the stage 1 and stage II was 6/216 (2.4%).

Voweden KR and Vowden.P (2014) conducted a survey regarding the prevalence of pressure ulcer in the tertiary hospitals, Malaysia, among 1000 bedridden patients for four weeks and found that prevalence of 53.7 % were classed as grade 2 pressure ulcers, 48 % were grade I and only 35 % of grade 4. Pressure ulcers were identified through the critical incident form are only about 11 % of pressure ulcers at intensive care units and gives the current epidemiology of pressure ulcers.

Harrow J.J et.al (2012) conducted a retrospective study regarding prevalence and severity of pressure-related injuries among 1000 bedridden patients at Freedom poly trauma care centres in Iraq from 2009- 2011. The study revealed that 38% of admissions to this hospital had pressure-related injuries on the day of admission. 40% of cases were developed pressure ulcer on 3rd day of admission, 22% of cases are developed pressure ulcer on 7th day of bedridden. In which Casualties from Iraq had a higher rate of pressure ulcers (53%) than other area (22%). Occipital lesions accounts 50% of stage I pressure ulcers and more severe than of the sacrum or in the extremities.

Lahmann N.A.et. al (2012) conducted an annual point prevalence survey regarding impact of prevention structures and processes on pressure ulcer prevalence in nursing homes and acute care hospitals, among 7377 residents in 60 nursing homes and also 28,102 clients with 82 acute-care hospitals at Germany. Results noted are nosocomial prevalence rates in hospitals decreased from 26.3% during the first year to 11.3% in the last year (mainly in nursing homes from 13.7% to 6.4%). The usage of pressure ulcer-related structures conspicuous more during each repetition to more than 90%.

Tescher et al. (2012), conducted a cohort study in the progressive care and intensive care units in Australia, to identify high-risk patients and the specific factors that placed them at high risk from January 1, 2015 to December 31, 2015 among 12,566 patients. Medical records of each subject were examined and only hospital-acquired stage 2 to 4 pressure ulcers were included. The mean age of the population was 64 ±17 years. The study revealed that 416 developed a stage 2 to 4 decubitus ulcer (3.3%). The total Braden score was shown to be highly predictive of decubitus ulcer development. The findings suggest that the total Braden scores alert clinicians to the need for more aggressive assessment of ICU patients at risk for decubitus ulcer.

Fisher A.R et. al (2011) conducted a cross sectional prevalence studies among 535 patients regarding pressure ulcers in adults in acute care settings at university teaching hospital, Canada and found the prevalence of pressure ulcers was 27% (at 95% confidence interval, 23-31%). Total Braden score below 17 and increasing age were significantly associated with the presence of pressure ulcers and also found majority of the risk factors are increasing age, less activity level, friction and shear while seated or lying down were associated with hospital-acquired pressure

ulcers, only increasing age, friction and shear were associated with the presence of pressure ulcers in the whole sample.

Shahin E.S (2009) conducted a cross sectional study regarding prevalence and risk factors of pressure ulcer among 1760 intensive care clients at German. Result shows the prevalence rate was 30% from 2005 to 2008, which was decreased to 16.2% in 2009 and half of the pressure ulcers were in grade I. study revealed that there was significant association between the pressure ulcer and age (P = 0.022), Braden score (P = 0.01) and bowel incontinence (P = 0.01).

Torra et al. (2008) conducted a comparative study on effects of Mepentol (hyper oxygenated fatty acid preventative dressing) with a placebo in preventing decubitus ulcers among 331 patients in Newzeland for a month. Intervention group 164 treated with Mepentol and control group 167 was treated with placebo. The study revealed that the pressure ulcer incidence during the study was 7.32% in the experimental group and 17.37% in the placebo group. The study concluded that Mepentol was a cost effective measure for preventing decubitus ulcer

Courtney H. Lyder; Elizabeth A. Ayello (2008) conducted a cross-sectional study to identify the prevalence of pressure ulcers among elderly people living in long-stay institutions in Sao Paulo, Brazil. Demographic and clinical data were collected in six long-stay institutions on two visits to each institution between May and August 2007, during which all elderly patients with pressure ulcers were evaluated. Statistical analysis was performed using the chi-square test, Student's t-test and Fisher's exact test. The population was 181 elderly people in May and 184 in August: 23 had pressure ulcers in May (prevalence of 12.7%) and 17 in August (prevalence of 9.2%). The mean age at the two times was 84 years, and the average length of stay was 32 months. The prevalence of pressure ulcers was 10.95%.

Berthe JV : Bustillo, (2007) conducted a prospective randomized clinical trial among 1729 patients in long term care unit, US . The study revealed that 42 patients (2.4%) had developed at least one pressure sore. 21 of the 657 patients (3.2%) nursed on the Kliniplot mattress, and 21 of the 1072 patients (1.9%) on the standard mattress developed bed-sores ($p = 0.154$). The median time for the occurrence of pressure sores was 31 days with the Kliniplot mattress and 18 days with the standard mattress ($p < 0.001$). Researcher concluded that the occurrence of pressure sores is not prevented but is delayed when patients are nursed on a Kliniplot pressure-decreasing mattress.

2.2 Review of literature related to effectiveness of Talc on prevention of decubitus ulcer

Dorota m, gertig et, al (2015) conducted a study on effectiveness of nursing intervention -position changing second hourly, providing clean bed, back massage with talc twice daily on prevention of decubitus ulcer among 100 intensive care unit clients for 5 days in Mangalore. Experimental group received back massage with talc and group received back massage with placebo treatment, the data were analyzed by using ANOVA and 't' test. Results showed that the experimental group's pretest score 7.67 reduce to 1.47 on the fifth day of intervention and control group's pretest score 7.53 reduce to 6.87 on the fifth day. The researcher concluded that back massage with talc was effective ($p=0.0005$) in reducing the risk of pressure ulcer.

Brown SJ, (2014) conducted a study to evaluate the effectiveness of talc on prevention of pressure ulcer among 100 bedridden patients in intensive care units for 8 days in Karnataka, among that 50 bedridden patients are treated with talc 50 bedridden patients are treated without talc. Post test was conducted on ninth day of intervention by using European Pressure Ulcer Advisory Panel grading system, results showed that experimental group's pretest score was 8.2 reduce to 2.3, control

group pretest score was 8.2 reduce to 6.6 , hence the conclusion was talc significantly most effective than ($P < 0.001$) without talc treatment.

M. R. Nott1, J. L. Peacock (2012) conducted a study to evaluate the effectiveness of back massage after 5 minutes topical application of talc among 120 intensive care units bedridden patients at University of Huddersfield, Queensgate. Risk of decubitus ulcer was estimated both on a linear scale and verbally after use of the talc for 5 to 10 minutes (60), a placebo cream (60). The study revealed that decubitus ulcer risk was significantly less after only 5 minutes of the applying back massage with the use of talc ($p = 0.002$). The result stated that the talc can be used to reduce the risk of decubitus ulcer among bedridden patients in intensive care units.

Bloch Y, et al (2011) conducted a randomized, placebo-controlled crossover study to examine the use of a local topical talc to ameliorate the decubitus ulcer risk among 100 ICU patients in Israel. 50 patients were in experimental group received back massage with talc and 50 patients were in control group received back massage with a placebo daily once. The level of risk of decubitus ulcer was quantified by the use of European Pressure Ulcer Advisory Panel grading system for decubitus ulcer. The result showed that application of the talc for back massaging led to a significant reduction of pressure ulcer risk ($p = 0.005$) compared with the placebo.

Fetzer, Susan Jane (2010): conducted a meta-analysis study to determine the effect of talc on reduction of risk of pressure ulcer among 150 intensive care units bedridden patients, in Andrapradesh. Effect sizes were calculated in three ways: weighted, un weighted, and weighted by quality index score. The result revealed that talc had a large significant effect on reduction of pressure ulcer risk ($d = 1.05$) with a 95% confidence interval from 0 .92 to 1.34 and a large significant effect on reduction pressure ulcer risk ($d = 1.04$) with a 95% confidence interval from .84 to 1.46.

Researcher concluded that back massage with talc can significantly decrease risk of decubitus ulcer in 85% of the population.

Cordoni A, Cordoni LE, Clin J (2009), conducted a double-blind placebo-controlled trial to assess the effectiveness of topical application of a talc/baby powder during back massage on reduction of pressure ulcer risk among 57 critical care unit patients, Belgium. 28 patients (mean age, 80 years) received back massage with talc, 29 patients in the placebo group (mean age, 60 years). The study revealed that there was no statistical significance between age, sex, and race. The authors concluded that a topical application of talc/baby powder significantly reduces risk of decubitus ulcer ($p=0.001$) when applied to epidermis layer of the skin.

Maria S. Smith DSN (2008) conducted a comparative study to determine the effect at 10-minutes application of talc during back massage among 40 critical care unit bedridden patients for 15 days, in Indonesia. Experimental group (20) received talc and a control group (20) received a placebo. The study revealed that all patients reported some level of risk on prolonged immobilization and there was a significant difference between the two groups ($p = .002$). The findings of the study suggested that a 10 minutes application of talc is adequate to decrease the risk of pressure ulcer.

Lauren A. Riendeau et al (2007) conducted a comparative study between three groups to evaluate the effectiveness of talc on reduction of pressure ulcer among 60 volunteers with differing skin pigmentation undergoing treatment at Queensland, Australia. Each group received back massage for 5minutes, 10 minutes, and 15 minutes with talc respectively. The study revealed that talc applied for 10 minutes significantly ($P < .0001$) reduced the risk of decubitus ulcer and also pressure ulcer risk reduction did not differ significantly across skin types ($P = .7986$). Result revealed that the talc is a safe and effective topical application for reducing risk of pressure ulcer associated with incontinence, regardless of skin pigmentation.

2.3 Review of literature related to effectiveness of Olive Oil on prevention of decubitus ulcer

Banashree Hawaibam*., Ranjana Tryambake and Keithellakpam Memchoubi (2016), conducted a Quasi-experimental study to assess the effectiveness of olive oil massage on prevention of decubitus ulcer among 40 bedridden patients for 7 days at Bharati Vidyapeeth Deemed University, College of Nursing, Pune, India. Olive oil massage were provided to experimental group (20) twice daily and routine care for control group. The main findings of the study shown that the pretest mean score of experimental group was 1 which reduced to 0.6 in posttest and pretest mean score of control group was 0.6 which increased to 2 in posttest. The study revealed that olive oil massage was effective on prevention of decubitus ulcer.

Zahra Abbas Ali Madadi, et al (2014) conducted a clinical trial to assess the effectiveness of topical olive oil on prevention of pressure ulcer among 60 bedridden patients for three weeks at Qazvin University of medical sciences, Iran. The control group (20 male, 10 female), had received routine skin care, while the intervention group (19 male and 11 female) had received topical Olive oil in addition to the routine care. Chi-square, T-test and Fisher's tests were used for analysis. Results showed that the 5 patients (16%) in experimental group had developed bedsore after an average of 18.73 ±5.36 days and 12 patients (40%) in control group had developed bedsore after an average of 15.46 ±7.40 day and the risks of developing bedsores between two groups were statistically significant (P=0.03). The author concluded that topical olive oil has potential effects to prevent decubitus ulcer in I.C.U patients.

Inmaculada Lupiáñez-Pérez, Juan Carlos Morilla-Herrera, Leovigildo Ginel-Mendoza et al., (2013): conducted a comparative study to assess the effectiveness of olive oil versus HOFA, (hyper oxygenated fatty acids) on reduction of risk of pressure ulcers among bedridden patients in critical care units for 16 weeks at Spain. The intervention group was treated by application of an olive-oil-based

formula whereas the control group was treated by application of HOFA. The study reveals that regular use of olive-oil-based formulas were effective (p=0.005) in preventing pressure ulcers in immobilized patients, thus leading to a more cost-effective product and an alternative treatment.

David Taylor, RamziHijazi, Joanna Richardson (2012): conducted a randomized placebo controlled trial to assess the efficacy, acceptability, and safety of a topical olive oil in reducing risk of pressure ulcer among 201 bedridden patients in intensive care units of a metropolitan teaching hospital, in Pune. The intervention group (103) was treated with olive oil and control group (98) was treated with placebo. Level of pressure ulcer risk was measured with European Pressure Ulcer Advisory Panel grading system. The results revealed that median (inter quartile range) pressure ulcer risk scores in the control and intervention groups were respectively ($P<0.005$), and ($P<0.001$). The study suggested that the topical olive oil was effective, acceptable, and safe in reducing risk of pressure ulcer in bedridden patients in the intensive care units.

Eunice O Osuala (2011) conducted a comparative study between three groups to determine the effectiveness of olive oil and coconut oil on reduction of pressure ulcer risk among 54 intensive care unit bedridden patients at Nnamdi Azikiwe University, Nigeria. Group one received routine care; group two received 10 ml of olive oil; and group three received 10 ml of coconut oil during back massage. European Pressure Ulcer Advisory Panel grading system was used to measure the risk level of decubitus ulcer. The study revealed that those receiving olive oil massage had lower pressure ulcer risk scores (p=0.001) at 95% confidence interval (CI) compared with the use of coconut oil and using no topical application.

Yadav G, et al, (2010) conducted a prospective, randomized, double blind study to evaluate the efficacy of topical olive oil for reducing the risk of decubitus ulcer among 60 bedridden patients for 8 days in UK. Group I received 10 ml of saturated olive oil, whereas Group II received 8 gm of talc. For both groups the olive

oil/talc were applied at the entire back. Pressure ulcer risk level was assessed by using European Pressure Ulcer Advisory Panel grading system. The study revealed that the incidence of pressure ulcer risk level was similar between groups: in the olive oil group 85% (23/28) compared to 77% (20/30) in the talc group (P=0.19). The study suggested that the topical application of talc is cheaper than olive oil and has similar efficacy, it may be a suitable alternative for reducing the incidence of pressure ulcer risk.

Stockman O, Reiz S. (2009), conducted a double-blind technique to know the minimal effective onset time of the new topical olive oil among 100 intensive care unit bedridden patients in Bangalore, Karnataka. Experimental group (50) received olive oil massage for 5 mts and control group received placebo oil. The risk level of decubitus ulcer was assessed by using a European Pressure Ulcer Advisory Panel grading system. The results revealed that the patients those received olive oil massage had lower pressure ulcer risk scores (P less than 0.01) than those who received placebo oil massage (P less than 0.001). The study concluded that olive oil massage was effective on reduction of pressure ulcer risk among bedridden patients in intensive care units.

Nevin KG, Rajamohan T, (2008), conducted a comparative study between three groups to assess the effect of changing position in managing the risk of bedsore among 100 bedridden patients in Chandigarh. One group (32) turned every 2 to 3 hours, one group (27) turned every 4 hours and one group (41) turned 2 to 4 times/day. Researcher found that older adults turned every 2 to 3 hours had fewer ulcers. Study concluded that reducing the pressure on pressure points is more effective in managing the pressure sore. This landmark nursing study created the gold standard of turning patients at least every 2 hours

2.4 Conceptual Framework

The conceptual framework for research study presents the measure on which the purpose of the proposed study is based. The framework provides the perspective from which the investigator views the problem.

Conceptual framework refers to interrelated concepts or abstractions that are assembled together in some rational scheme by virtue of their relevance to a common theme

(Polit and Hunger- 1997).

A conceptual framework on a model is made up of concepts, which are the mental images of the phenomenon. It offers framework of preposition for conducting research. These concepts are linked together to express the relationship between them. A model is used to denote symbolic representation of the concepts.

The conceptual frame work of this study was derived from Self Care Deficit Theory (Dorothea.E.Orem, 1980, Orem (1991) has identified three classifications of nursing system to meet self care requisites of each system describes nursing responsibilities, role of the nurse and patient, rationales for the nurse – patient relationship and types needed to meet the patients relationship, and types of actions needs to meet patients self care agency and therapeutic self care demand. These systems are;

- The wholly compensatory system
- The partial compensatory system.
- The supportive educative system

Arises when the self care agency cannot meet self care requisites (Client is unable to perform self care activities by himself). Necessitates nursing to meet the self care requisites through five methods of help acting or doing for guiding, teaching, supporting and providing an environment to promote the client ability to meet current or future demands.

Orem (1991) enumerated five areas of activity for nursing practice. They are as follows

Self care-self care is the learned, goal oriented activity of individual. Adult care for themselves, whereas infants, the aged, the ill and the disabled require assistance with self care activities, when self care action is limited because of health deviation.

- In this study, self care is the goal oriented activity back care and position changing and heel elevation on pillow which are the learnt behaviour but not able to be performed by the bedridden patients.

Self care agency- Self care agency is a learned ability and is a deliberate action. Human need continuous self care maintenance and regulation and it is provided by caring for self, which enables purposeful action. Self activities maintain life, health and well being. Nurse must focus on limitations in self care abilities and must accurately diagnose self-care agency.

- In this study, Self care agency is the bedridden patient's self care ability is altered and they are not able to continue their self care activities, which maintain their life, health and well being.

Self care demands – Demands or requisites are the activities of daily living. Self care requisites can be defined as actions directed toward the provision of self care. Three kinds of requisites are mentioned, they are universal, development and health deviation.

- In this study, Self care demands are health deviation in the bedridden patients. Activities of daily living (back care and position changing, heel elevation on pillow) are the demands of the bedridden patients.

Deficit- Nursing agency is required, when an individual is incapable of or limited in the provision of continuous effective self care.

- In this study, continuous effective back care and position changing, heel elevation on pillow are the deficit in the bedridden patients.

Nursing agency- "Nursing agency is a continuing series of actions produced ,when nurses link one way or a number of ways of helping to their own actions or actions of persons under care that are directed to meet these persons therapeutic self care demands or to regulate their self-care agency"

In this study,

- In this study, Researcher is the Nursing agency, who provided the back care with the use of talc to group I and olive oil to group II while effleurage, vibration technique of back massage and 2 nd hourly position changing, heel elevation on pillow in order to reduce the risk of decubitus ulcer among bedridden patients. The level of risk of decubitus ulcer is measured by using modified European pressure ulcer advisory panel grading system for decubitus ulcer.

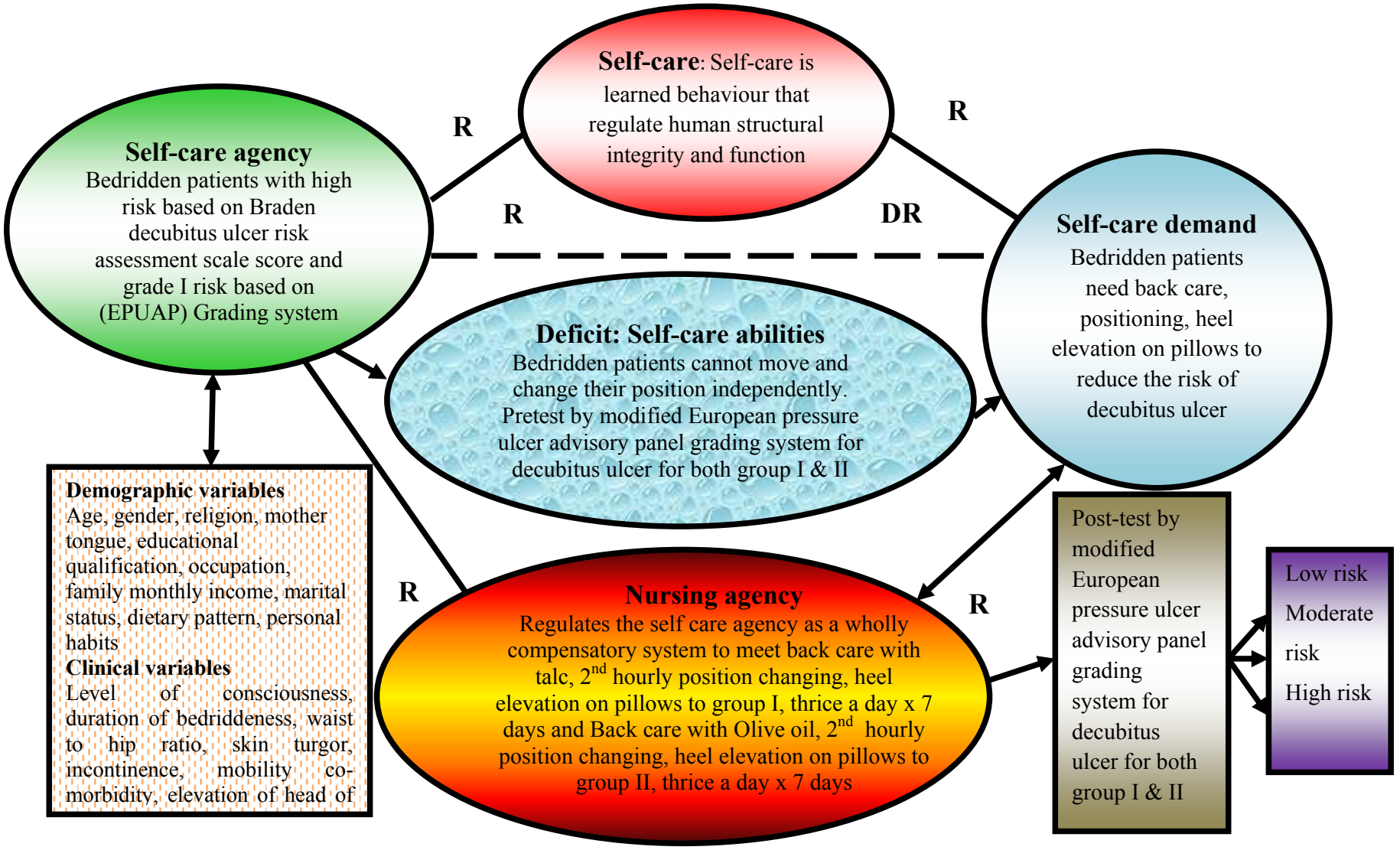


FIGURE 1.CONCEPTUAL FRAMEWORK BASED ON MODIFIED OREM'S SELF CARE DEFICIT THEORY

METHODOLOGY

CHAPTER-III

RESEARCH METHODOLOGY

The methodology of research indicates the general pattern of organizing the procedure for assembling valid and reliable data for investigation. This chapter provides a brief explanation of the method adopted by the investigator in this study. It includes the research approach, research design, and variables, setting of study, population, sample, sample size, sampling technique, description of the tool, pilot study, data collection procedure and plan for data analysis and ethical consideration and schematic representation of the study.

The present study is aimed to evaluate the effectiveness of Talc vs Olive Oil on prevention of Decubitus ulcer among bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai".

3.1. Research Approach

The research approach was adopted by the investigator for this study was quantitative evaluative approach which was appropriate to accomplish the ability of this study.

3.2. Research Design

Research design is the plan for the study, giving overall framework for collecting the data. The study design used for this study was **True experimental - pre test post test design**.

	Group	**Pretest**	**Intervention**	**Post test**
R	**Intervention group I**	**O_1**	**X_1**	**O_2**
	Intervention group II	**O_1**	**X_2**	**O_2**

R - Randomization

O_1 - Pretest level of decubitus ulcer risk among intervention group I and intervention group II bedridden patients

X_1 - Application of Talc to intervention group I three times a day x 7 days

X_2 - Application of Olive oil to intervention group II three times a day x 7 days

O_2 - Post test level of decubitus ulcer risk among intervention group I and intervention group II bedridden patients.

3.3 Research Variable

The research variables in this study were

- **Independent variable:** Talc for intervention group I and Olive Oil for intervention group II
- **Dependent Variable** – Risk of Decubitus ulcer

3.4. Setting of the study

The setting of the study was the Critical Care Units, at Govt.Rajaji Hospital, Madurai which is the one of the biggest and a multispecialty hospital in Tamil Nadu. The total outpatient strength is approximately 4000 per day and inpatient bed strength is 3106. The Critical Care Units consist of 75 beds and are situated on the ground floor. Approximately 250 admissions per month in critical care units.

3.5. Population

Target Population

The target population is the bedridden patients in Critical Care Units.

Accessible Population

The accessible population is the bedridden patients in Critical Care Unit ,Govt. Rajaji Hospital, Madurai

3.6. Sample

Bedridden patients in Critical Care Unit, those who fulfills the inclusion criteria at Govt. Rajaji Hospital, Madurai

3.7. Sample Size

60 (30 in intervention group I & 30 in intervention group II)

3.8. Sampling Technique

In this study the investigator selected the patients admitted in Critical Care Units. Government Rajaji Hospital by non-probability - consecutive sampling technique.

3.9. Criteria for selection of sample

Inclusion Criteria

The study includes

- Bedridden patients with grade I risk of decubitus ulcer.
- Bedridden patients who are present at the time of data collection.

Exclusion Criteria

Study excludes

- Bedridden patients who are having pressure sore.
- Bedridden patients who are in special bed like alpha bed, water bed
- Bedridden patients who are contraindicated to change their position.

3.10. Development and description of the tool

DATA COLLECTION TOOL- Modified European Pressure Ulcer Advisory Panel (EPUAP) grading system for decubitus ulcer

Grade I	Warmth, Intact skin with non-blanchable redness, purplish/bluish colour, Edema (non-pitting swelling), taut and shiny skin.
Grade II	Partial thickness loss of dermis presenting as a shallow open ulcer with a red pink wound bed, without slough. May also present as an intact or open/ruptured serum - filled or sero-sanginous filled blister

Description of tool

The tool consisted of two sections:

Section I

A: Consist of Socio demographic variables such as Age in years, Gender, Religion, Mother tongue, Educational qualification, Occupation, Family monthly income, Marital status, Dietary pattern, personal habits.

B: Clinical variables such as level of consciousness, duration of bedriddeness, waist to hip ratio, skin turgor, incontinence, mobility, co-morbidity, elevation of head of bed.

Section II: Modified European Pressure Ulcer Advisory Panel (EPUAP) grading system for decubitus ulcer.

Scoring Procedures

Section I: No score was allotted for socio demographic variables and clinical variables

Section II: Modified European Pressure Ulcer Advisory Panel (EPUAP) grading system for decubitus ulcer

Grade I	Warmth, Intact skin with non-blanchable redness, purplish/bluish colour, Edema (non-pitting swelling), taut and shiny skin.
Grade II	Partial thickness loss of dermis presenting as a shallow open ulcer with a red pink wound bed, without slough. May also present as an intact or open/ruptured serum - filled or sero-sanginous filled blister

Modified Grade- I Decubitus Ulcer –Scoring

S.No	Description	Score
1.	Warmth	1
2.	Intact skin with non-blanchable redness	2
3.	Purplish/bluish discolouration of the skin	3
4.	Edema	4
5.	Taut and shiny skin	5
	Total score	**15**

Scores were calculated by summing the scores for the items. The scores of each respondent over the scales are then evaluated as per the severity.

Level	Score
Low risk	1-5
Moderate risk	6-10
High risk	11-15

Testing of the tool

3.11. Content Validity

In order to measure the content validity, the tool along with demographic and clinical variables were given to three experts in the field of Medical Surgical Nursing, Head of the Department of Medicine and Statistician. Tool was translated in to Tamil to confirm language validity.

3.12. Reliability

The reliability of a measuring instrument is a major criterion for assessing its quality and adequacy. Reliability is the consistency with which it measures the target attribute. The reliability of the tool was done by test retest method, r= 0.85. Hence the tool was reliable and was used in this study.

3.13. Pilot study

A formal permission was obtained from Institutional Ethics Committee and Head of the Department of Medicine, Government Rajaji Hospital, Madurai. Pilot study was conducted from 06.03.2017 to 12.03.2017 in Critical Care Units, at Government Rajaji Hospital, Madurai to test the feasibility and practicability of the tool among 10 bedridden patients (5 in intervention group I and 5 in intervention group II). Samples were selected as per inclusion criteria and samples were randomly assigned to intervention group I and intervention group II using lottery method. Initially the care givers were explained about the study and informed consent was obtained. Pretest was done on first day for both intervention group I and intervention group II using Modified European Pressure Ulcer Advisory Panel (EPUAP) grading system for decubitus ulcer scale ; group I received back care with 8-10 gm of talc, group II received back care with 5-8 ml of olive oil while providing effleurage,

vibration techniques of back massage for 10-15 minutes three times a day along with 2nd hourly position changing, heel elevation on pillow for seven consecutive days to the bedridden patients. Then post test was assessed on 8th day using same Modified European Pressure Ulcer Advisory Panel (EPUAP) grading system for decubitus ulcer scale. The findings of the pilot study revealed that there was a significant difference in the level of decubitus ulcer risk between the intervention group I and intervention group II among bedridden patients in critical care units, at Government Rajaji Hospital, Madurai. Pilot study revealed that the it was relevance, feasible and practicable to conduct the main study.

3.14 Ethical consideration

The study was conducted after the approval from the Ethics committee, Madurai Medical College, Madurai-20. All the respondents were carefully informed about the purpose of the study and their part during the study and how the privacy was guarded. Confidentiality was ensured. written permission was obtained from all care givers participants

3.15. Data collection procedure

The researcher obtained formal permission from Ethics committee and the professor and HOD, Department of Medicine, Government Rajaji Hospital, Madurai to conduct the study. The study was conducted for a period of six weeks from 20.03.2017 to 30.04.2017 among 60 bedridden patients (30 in intervention group I and 30 in intervention group II) in Critical Care Units at Government Rajaji Hospital, Madurai. On the first day of procedure, samples were selected as per inclusion criteria by consecutive sampling technique. Samples were randomly divided in to intervention group and control using lottery method. After maintaining initial rapport, purpose of

the study was explained and a written informed consent was obtained from the care givers of the study subject. Demographic data was collected and pre test was conducted to assess the level of risk of decubitus ulcer using Modified European Pressure Ulcer Advisory Panel (EPUAP) grading system for decubitus ulcer**;** group I received back care with 8-10 gm of talc, group II received back care with 5-8 ml of olive oil while providing effleurage, vibration techniques of back massage for 10-15 minutes three times 7am,1pm,7pm respectively per day along with 2 nd hourly position changing, heel elevation on pillow for seven consecutive days to the bedridden patients. After 7 days of intervention, post test was assessed on 8th day by using same Modified European pressure ulcer Advisory Panel (EPUAP) grading system for decubitus ulcer.

3.16. Plan for data analysis

The data was analyzed according to objectives of the study by using descriptive and inferential statistics.

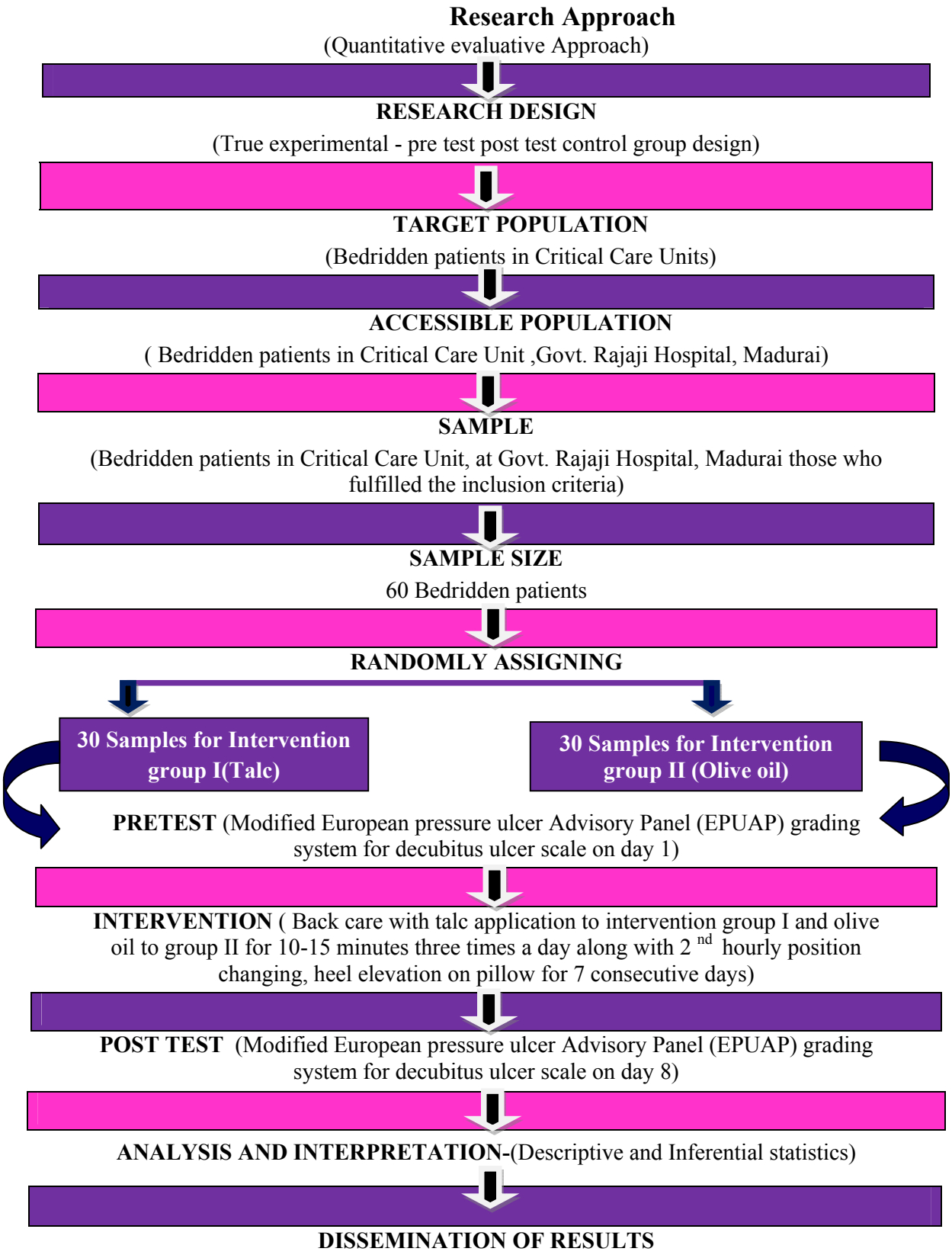
1. Frequency and percentage was used for analyzing socio demographic variables, clinical variables.
2. Mean and standard deviation were used to analyze the changes in the level of decubitus ulcer risk among bedridden patients
3. Effectiveness of talc on level of decubitus ulcer risk between pretest and posttest of the intervention group I was tested using a student paired ‘t’ test and Extended Mc Nemar’s test.
4. Effectiveness of olive oil on level of decubitus ulcer risk between pretest and posttest of the intervention group I was tested using a paired ‘t’ test and Extended Mc Nemar’s test.

5. Comparison of effectiveness of talc and olive oil on risk level of decubitus ulcer between the post test of the intervention group I and intervention group II was tested by 95% confidence interval.
6. ANOVA F test was used to find out the association between the risk level of decubitus ulcer and selected socio demographic variables and clinical variables among bedridden patients.

3.17. Protection of human rights

- The research proposal was approved by the dissertation committee, College of Nursing, Government Rajaji Hospital, IRB (Institutional Review Board) Madurai, ethical committee, and from the professor and HOD, Department of Medicine, Government Rajaji Hospital, Madurai to conduct the main study.
- Both verbal and written informed consent was obtained from all the care givers of study participants and the data collected was kept confidential.
- Positive benefits were explained to all the study subjects. They were also explained that they may withdraw from the study at any time without any penalty.
- Confidentiality was maintained throughout the study.

3.18 Schematic Representation of Research Methodology



DATA ANALYSIS AND INTERPRETATION

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

Data analysis is a systematic organization and synthesis of research data and testing of research hypothesis using those data. Interpretation is the process of taking sense of the result and examining their implications. This chapter deals with the analysis and interpretation of data collected from 60 samples of bedridden patients to evaluate the achievement of the objectives of the study. This study was done to evaluate the effectiveness of Talc vs Olive Oil on prevention of Decubitus ulcer among bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai".

The data collected were interpreted under the following sections

Section –I: Distribution of Socio demographic variables & clinical variables among bedridden patients.

Section –II: Description of level of decubitus ulcer risk among bedridden patients.

Section –III: Effectiveness of Talc vs Olive Oil on prevention of Decubitus ulcer among bedridden patients.

Section –IV: Association between the risk level of decubitus ulcer among bedridden patients with their selected socio demographic variables and clinical variables.

Section I

Distribution of Socio demographic variables and clinical variables among bedridden patients

Table - 1

Frequency and percentage distribution of Socio demographic variables among bedridden patients

n=60

Demographic Variables		Group			
		Talc(n=30)		Olive oil(n=30)	
		f	%	f	%
Age	< 30 years	6	20.0%	7	23.3%
	31 - 40 years	4	13.3%	4	13.3%
	41 - 50 years	5	16.7%	10	33.4%
	51 - 60 years	8	26.7%	4	13.3%
	> 60 years	7	23.3%	5	16.7%
Gender	Male	21	70.0%	23	76.7%
	Female	9	30.0%	7	23.3%
Religion	Hindu	28	93.4%	27	90.0%
	Christian	1	3.3%	1	3.3%
	Muslim	1	3.3%	2	6.7%
Mother Tongue	Tamil	29	96.7%	29	96.7%
	Malayalam	1	3.3%	0	0.0%
	Telugu	0	0.0%	1	3.3%
Education status	Non formal education	5	16.7%	2	6.7%
	Primary education	8	26.7%	13	43.3%
	SSLC	9	30.0%	10	33.3%
	HSC	4	13.3%	3	10.0%
	Graduate	4	13.3%	2	6.7%
Occupation status	Un employee	9	30.0%	8	26.7%
	Self-employee	5	16.7%	5	16.7%
	Daily wages	14	46.6%	16	53.3%
	Govt. employee	2	6.7%	1	3.3%

Family Monthly Income	Rs.1001-3000	8	26.7%	4	13.3%
	Rs.3001-6000	12	40.0%	17	56.7%
	> Rs.6000	10	33.3%	9	30.0%
Marital Status	Un married	1	3.3%	2	6.7%
	Married	26	86.7%	28	93.3%
	Widow/widower	3	10.0%	0	0.0%
Dietary Pattern	Vegetarian	2	6.7%	1	3.3%
	Non-vegetarian	28	93.3%	29	96.7%
Personal Habits	Smoking	2	6.7%	2	6.7%
	Alcoholism	3	10.0%	2	6.7%
	Smoking & Alcoholism	15	50.0%	18	60.0%
	None	10	33.3%	8	26.6%

P> 0.05 not significant NS= Not significant DF= Degrees of Freedom

The above table reveals the socio demographic variables among bedridden patients, such as Age, Gender, Religion, Mother Tongue, Education, Occupation, Income, Marital Status, dietary pattern and personal habits.

Regarding Age, majority of the bedridden patients 8(26.7%) were between 51-60 yrs, 6 (20%) subjects were less than 30 yrs of age, 31-40 & 41-50 yrs of age group patients were 4(13.3%) and 5(16.7%) and, 7(23.3%) of subjects were more than 60 yrs in Group I and 7(23.3%) were in less than 20 yrs of age, 31-40 & 41-50 yrs of age group patients were 4 (13.3%) and 10(33.4%) and 4 (13.3%) were in 51-60 yrs, 5(16.7%) of subjects were more than 60 yrs in Group II.

With regard to Gender, majority of bedridden patients 21(70%) were males and remaining 9 (30.0%) were females in Group I and 23(76.7%) were males and remaining 7 (23.3%) were females in Group II.

With regard to Religion, majority of bedridden patients 28 (93.4%) were Hindu, 1 (3.3%) was Christian and remaining 1 (3.3%) was Muslim in Group I and 27(90.0%) were Hindu, 1 (3.3%) was Christian and remaining 2 (6.7%) were Muslim in Group II.

While discussing Mother Tongue, majority of the bedridden patients 29 were speaking Tamil and remaining 1 (3.3%) was speaking Malayalam in Group I and 29 were speaking Tamil and remaining 1 (3.3%) was speaking Telugu in Group II.

According to Education, majority of the bedridden patients 9 (30.0%) had secondary education , 8 (26.7%) were in primary education, 5 (16.7%) had non formal education, 4 (13.3%) were higher secondary education and 4 (13.3%) subjects were graduate in Group I and 10 (33.3%) had secondary education , 13 (43.3%) were in primary education, 2 (6.7%) had non formal education, 3 (10.0%) were higher secondary education and 2 (6.7%) subjects were graduate in Group II.

By seeing Occupation majority 14 (46.6%) were Daily wages, 9 (30%) were unemployed , 5 (16.7%) were self employed and 2 (6.7%) were Govt. employee in Group I and 16 (53.3%) were Daily wages,8 (26.7%%) were unemployed , 5 (16.7%) were self employed and 1 (3.3%) was Govt. employee in Group II

While discussing Income, majority 12 (40.0%) were in the income of Rs.3001-6000, 10 (33.3%) were earning More than Rs.6000, 8(26.7%.0%) earns between Rs.1001-3000 in Group I and 17 (56.7%) were in the income of Rs.3001-6000, 9 (30.0%) were earning More than Rs.6000, 4 (13.3%.0%) earns between Rs.1001-3000 in Group II

With regard to Marital Status, majority of the bedridden patients 26 (86.7%) were married and 1 (3.3%) were unmarried and remaining 3 (10%) were widower in Group I and 268 (93.3%) were married and 2 (6.7%) were unmarried in Group II.

By seeing Dietary pattern majority 28 (93.3%) were non vegetarian and remaining 2 (6.7 %) were vegetarian in Group I and 29 (96.7%) were non vegetarian and remaining 1 (3.3 %) were vegetarian in Group II.

With regard to Personal habits, majority of bedridden patients 15 (50.0%) were smokers and alcoholics, 2 (6.7%) were smokers, 3 (10.0%) were alcoholics and 10 (33.3%) had no bad habits in Group I and18 (60.0%) were smokers and alcoholics, 2 (6.7%) were smokers, 2 (6.7%) were alcoholics and 8 (26.6%) had no bad habits in Group II

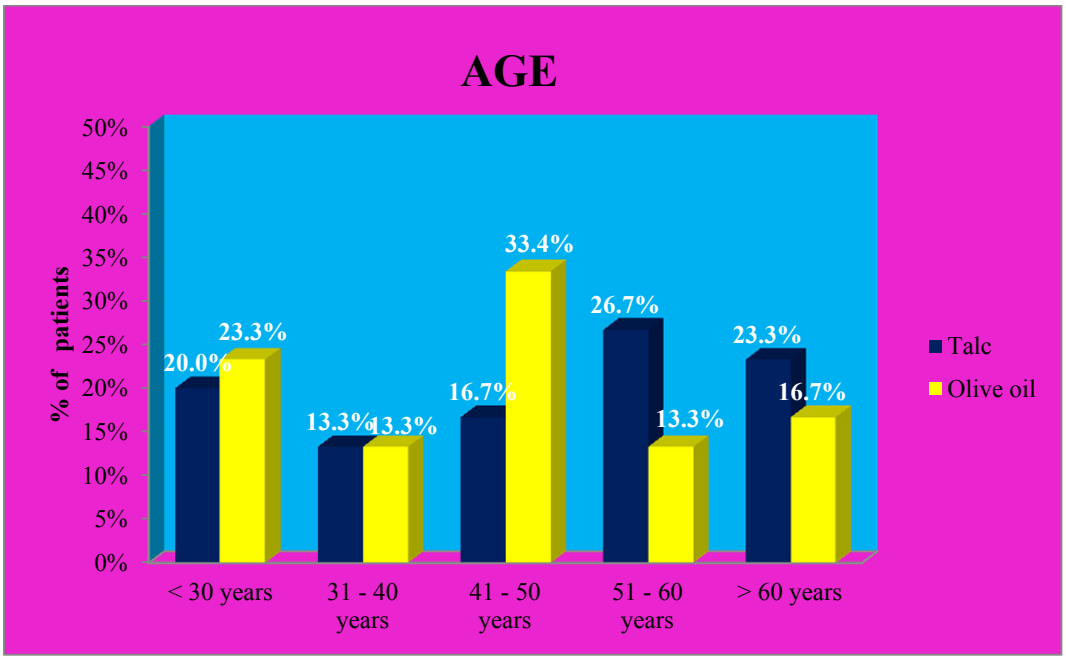


Figure 2 - Percentage distribution of age among bedridden patients

The above multiple bar diagram depicts that majority of bedridden patients 8 (26.7%), were between 51-60 yrs in Group I and 10 (33.4%) were between 41-50 yrs in Group II and least 4(13.3%) were between 31-40 yrs in both group.

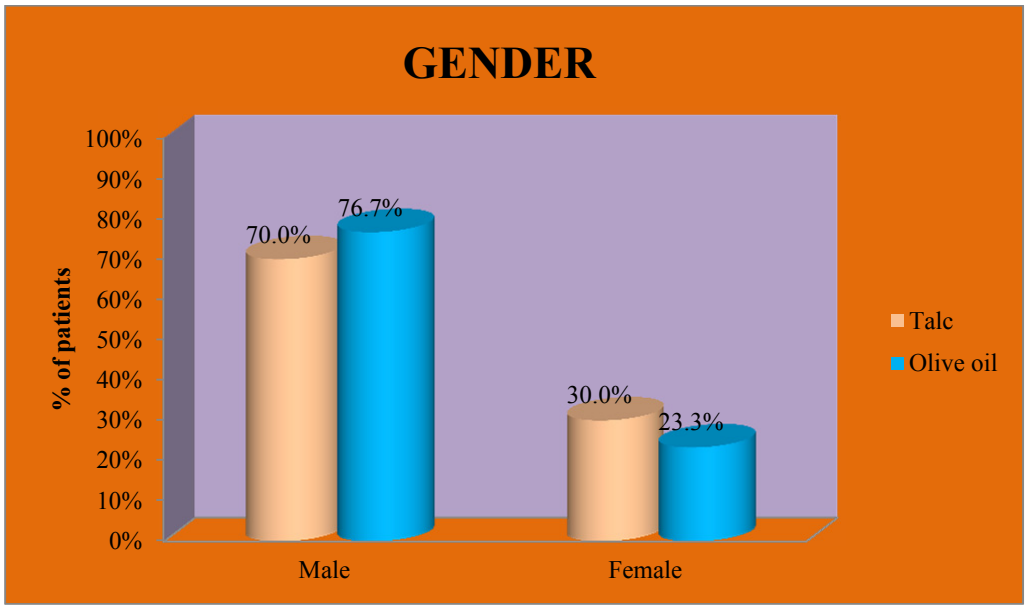


Figure 3 -Percentage distribution of gender among bedridden patients

The above Cylinder diagram portrays that majority of bedridden patients 21(70%) were males and least 9 (30.0%) were females in Group I and 23(76.7%) were males and 7 (23.3%) were females in Group II.

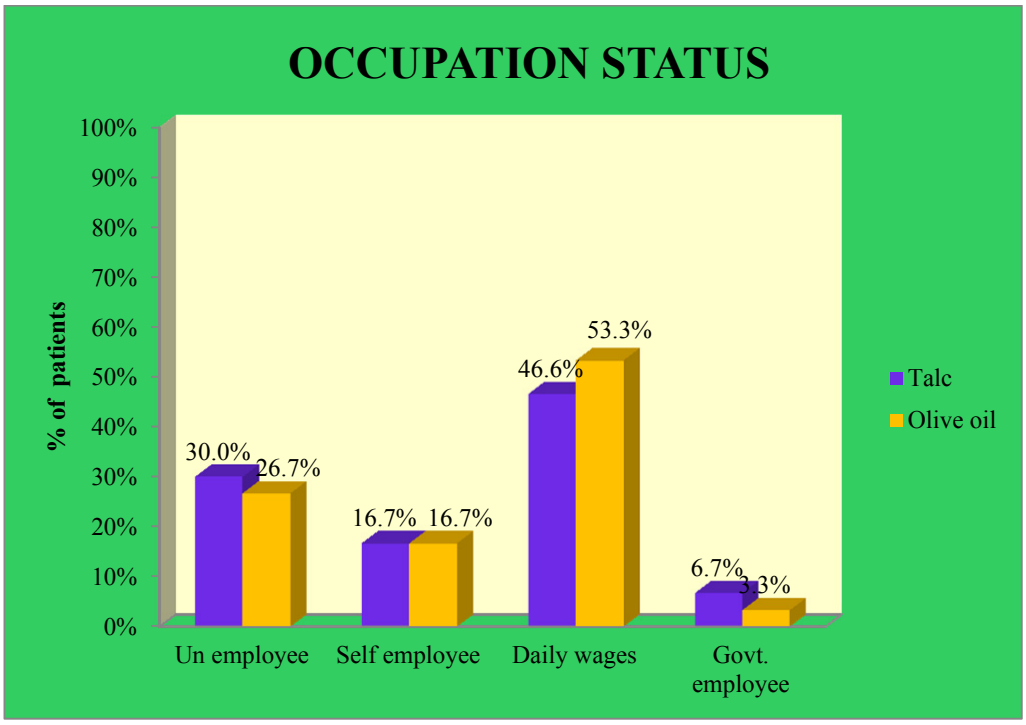


Figure 4 - Percentage distribution of occupation status among bedridden patients

The above multiple bar diagram shows that majority 14 (46.6%) were Daily wages, and least 2 (6.7%) were Govt. employee in Group I, where in Group II majority 16 (53.3%) were Daily wages, and minority 1 (3.3%) was Govt. employee.

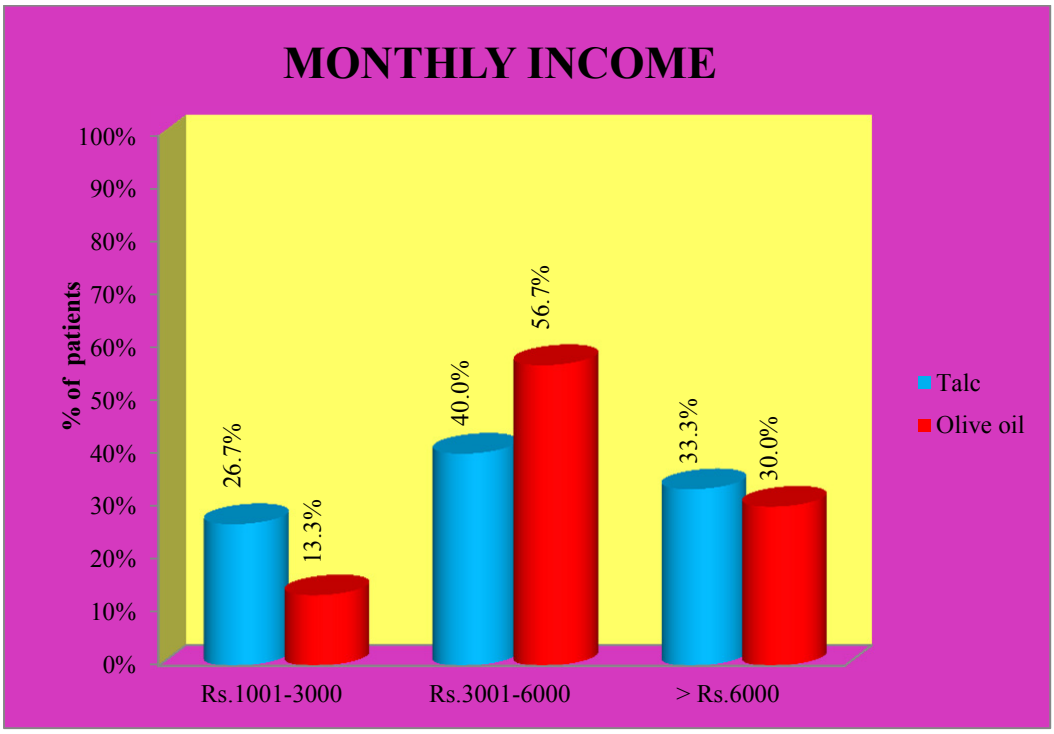


Figure 5 - Percentage distribution of monthly income among bedridden patients

The above cylinder diagram depicts that majority 12 (40.0%) in Group I and 17 (56.7%) in Group II were in the income of Rs.3001-6000, and minority 8(26.7%.) in Group I and 4 (13.3%) in Group II earns between Rs.1001-3000.

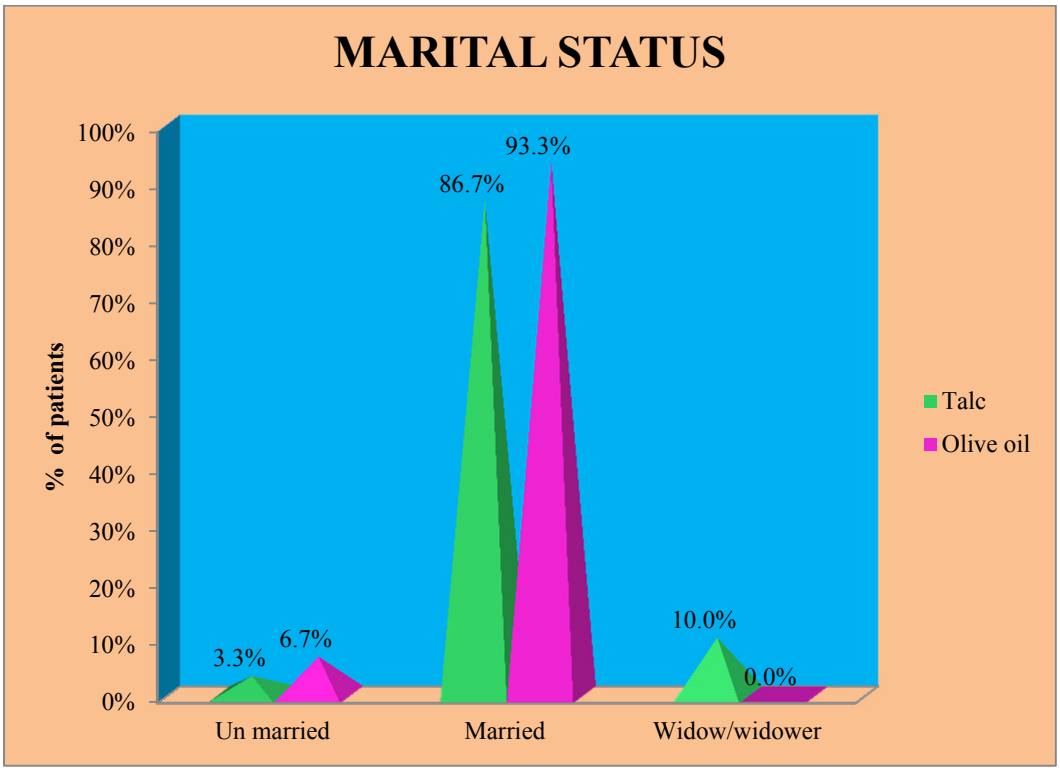


Figure 6 - Percentage distribution of Marital status among bedridden patients

The above Pyramid diagram portrays that majority of the bedridden patients 26 (86.7%) in Group I and 28 (93.3%) in Group II were married and least 1 (3.3%) in Group I and 2 (6.7%) in Group II were unmarried.

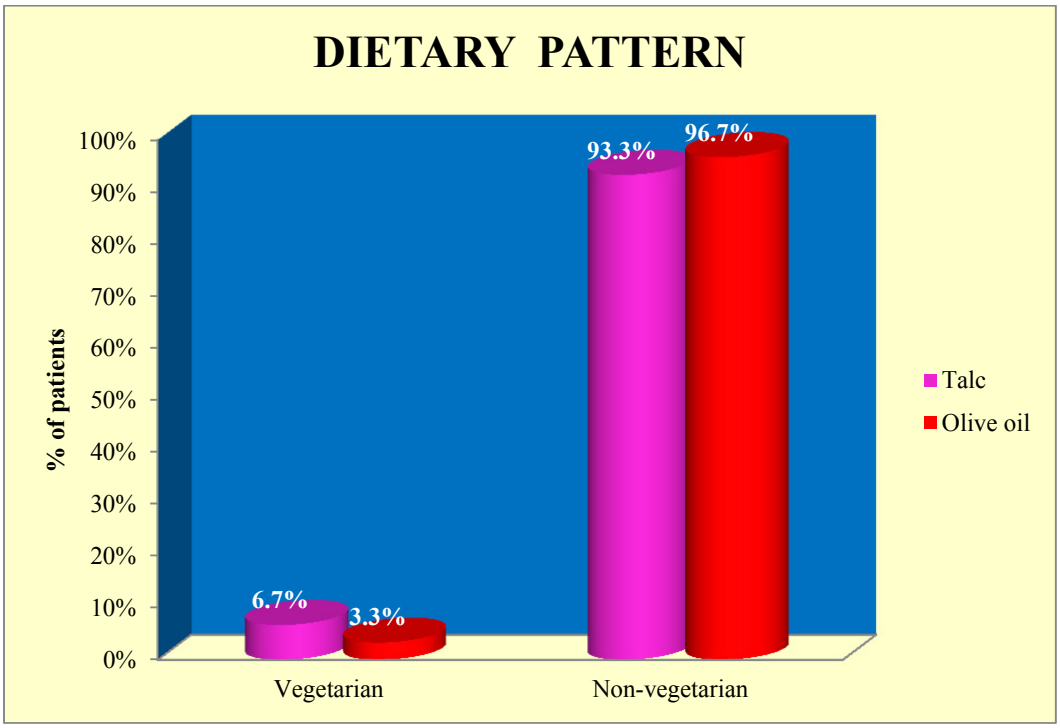


Figure 7 - Percentage distribution of Dietary pattern among bedridden patients

The above cylinder diagram depicts that majority 28 (93.3%) were non vegetarian and least 2 (6.7 %) were vegetarian in Group I where in Group II majority 29 (96.7%) were non vegetarian and 1 (3.3 %) were vegetarian in Group II.

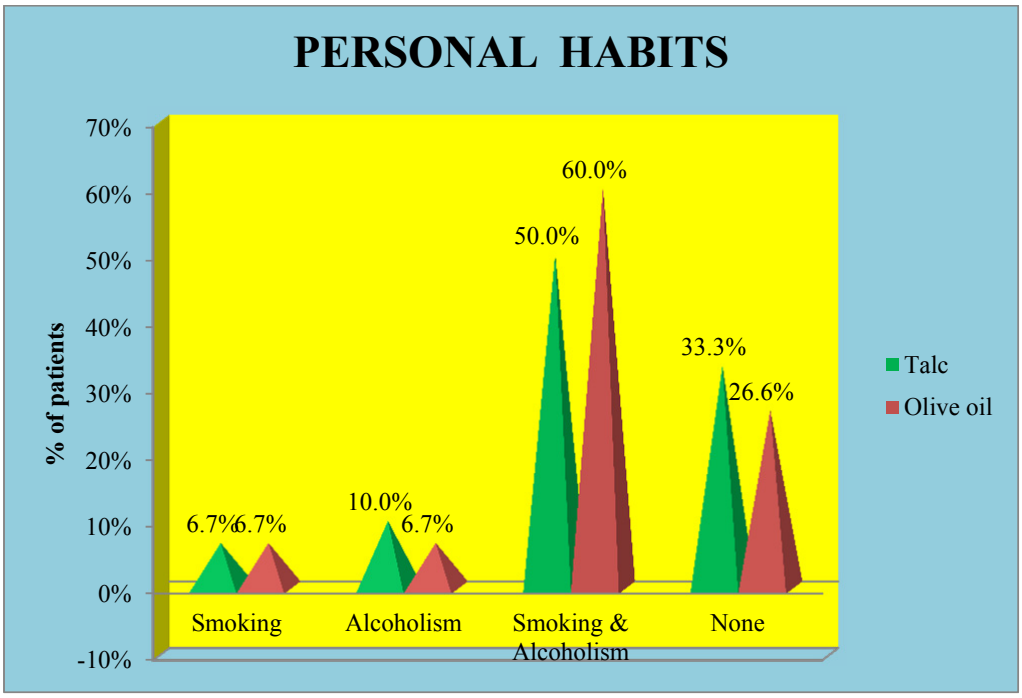


Figure 8 - Percentage distribution of personal habits among bedridden patients

The above Pyramid diagram portrays that majority of bedridden patients 15 (50.0%) in Group I and 18 (60.0%) in Group II least 2 (6.7%) were smokers in both group

Table - 2

Frequency and percentage distribution of clinical variables among bedridden patients

Clinical variables		Group				Chi square test
		Talc(n=30)		Olive oil(n=30)		
		f	%	f	%	
Level of consciousness	Conscious	12	40.0%	14	46.7%	$\chi 2$=0.33 p=0.85 DF=2 NS
	Semi-conscious	4	13.3%	3	10.0%	
	Unconscious	14	46.7%	13	43.3%	
Duration of bedriddeness	Less than 1 week	27	90.0%	27	90.0%	$\chi 2$=0.00 p=1.00DF=1 NS
	More than 1 week	3	10.0%	3	10.0%	
Waist to Hip Ratio	0.95 or below (male)/ 0.80 or below (female)	20	66.7%	16	53.3%	$\chi 2$=4.07 p=0.13DF=2 NS
	0.96-1.0/ 0.81-0.85	9	30.0%	8	26.7%	
	More than 1/ more than 0.85	1	3.3%	6	20.0%	
Skin turgor	Good			1	3.3%	$\chi 2$=0.28 p=0.86DF=2 NS
	Fair	13	43.3%	11	36.7%	
	Poor	17	56.7%	18	60.0%	
Incontinence	Urinary incontinence	2	6.7%	1	3.3%	$\chi 2$=1.26p=053 DF=2 NS
	Fecal incontinence	10	33.3%	7	23.3%	
	None	18	60.0%	22	73.3%	
Mobility	Completely limited	15	50.0%	17	56.7%	$\chi 2$=2.12 p=0.34DF=2 NS
	Very limited	13	43.3%	13	43.3%	
	Slightly limited	2	6.7%			

Co-morbidity	Diabetes	8	26.7%	5	16.7%	
	Hypertension	7	23.3%	7	23.3%	$\chi 2=1.56$
	Diabetes and Hypertension	7	23.3%	6	20.0%	p=0.66 DF=3 NS
	None	8	26.7%	12	40.0%	
Elevation of head of bed	Completely flat	8	26.7%	10	33.3%	$\chi 2=1.47$
	15	10	33.3%	11	36.7%	p=0.69 DF=3
	30	11	36.7%	9	30.0%	NS
	45	1	3.3%			

P> 0.05 not significant NS= Not significant DF= Degrees of Freedom

The above table quotes the clinical variables of patients those who are participated in this study Similarity of clinical variables distributions between talc and Olive oil groups are assessed using chi square test.

With regard to Level of consciousness, majority of bedridden patients 14 (46.7%) were unconscious, 12 (40.0%) were conscious and remaining 4 (13.3%) were semi-conscious in Group I and 13 (43.3%) were unconscious, 14 (46.7%) were conscious and remaining 3 (10.0%) were semi-conscious in Group II

With regard to Duration of bedriddeness, majority of bedridden patients 27 (90.0%) were less than 1 week and 3 (10.0%) were more than 1 week in Group I and 27 (90.0%) were less than 1 week and 3 (10.0%) were more than 1 week in Group II.

With regard to Waist Hip Ratio, majority of the bedridden patients 20 (66.7%) were in the range of 0.95 or below (male)/ 0.80 or below (female) , 9 (30.0%) were between 0.96-1.0/ 0.81-0.85 and remaining 1 (3.3%) were between More than 1/ more than 0.85 in Group I and 16 (53.3%) were in the range of 0.95 or below (male)/ 0.80

or below (female) , 8 (26.7%) were between 0.96-1.0/ 0.81-0.85 and remaining 6 (20.0%) were between More than 1/ more than 0.85 in Group II.

According to Skin turgor, majority of the bedridden patients 17 (56.7%) had poor skin turgor, 13 (43.3%) had fair skin turgor in Group I and 18 (60.0%) had poor skin turgor, 11 (36.7%) had fair skin turgor and remaining 1 (3.3%) had good skin turgor in Group II

By seeing Incontinence majority 18 (60.0%) had no incontinence, 10 (33.3%) had fecal incontinence and remaining 2 (6.7%) had urinary incontinence in Group I and 22 (73.3%) had no incontinence, 7 (23.3%) had fecal incontinence and remaining 1 (3.3%) had urinary incontinence in Group II

While discussing Mobility, majority 15 (50.0%) had complete mobility limitation, 13 (43.3%) had very limited mobility, 2 (6.7%.0%) had slight limited mobility in Group I and 17 (56.7%) had complete mobility limitation, 13 (43.3%) had very limited mobility in Group II.

With regard to Co-morbidity, majority of the bedridden patients 8 (26.7%) were diabetes, 7 (23.3%) were hypertensive, 7 (23.3%) were hypertensive and diabetes and remaining 8 (10%) had no co-morbidity in Group I and 5 (16.7%) had diabetes, 7 (23.3%) were hypertensive, 6 (20.0%) were hypertensive and diabetes in Group II

By seeing Elevation head of bed, majority 11 (36.7%) had 30^0 elevation, 10 (33.3%) had 15^0 elevation, 1(3.3%) had 45^0 elevation and remaining 8 (26.7 %) had completely flat in Group I and 9 (30.0%) were 30^0 elevation, 11 (36.7%) had 15^0 elevation, and remaining 10 (33.3%) had completely flat in Group II.

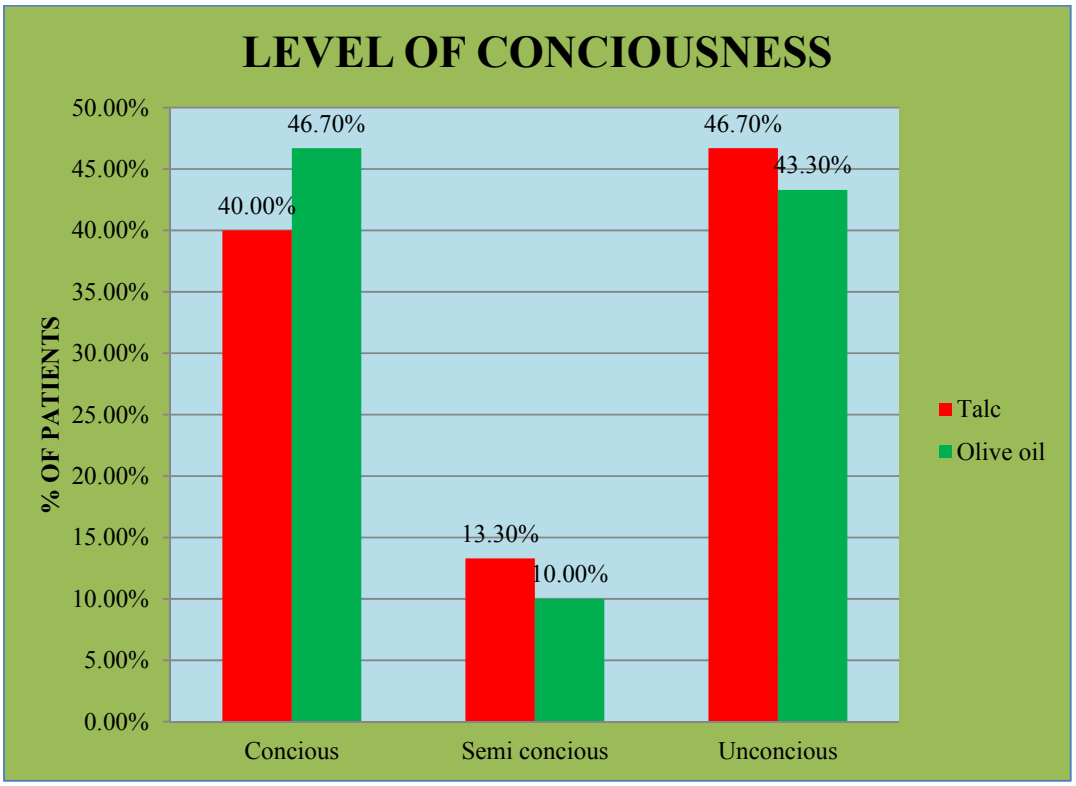


Fig- 9 Percentage distribution of level of consciousness among bedridden patients

The above bar diagram portrays that majority of bedridden patients 14 (46.7%) were unconscious, and least 4 (13.3%) were semi conscious in Group I and 14 (46.7%) were conscious and minority 3 (10.0%) were semi conscious in Group II.

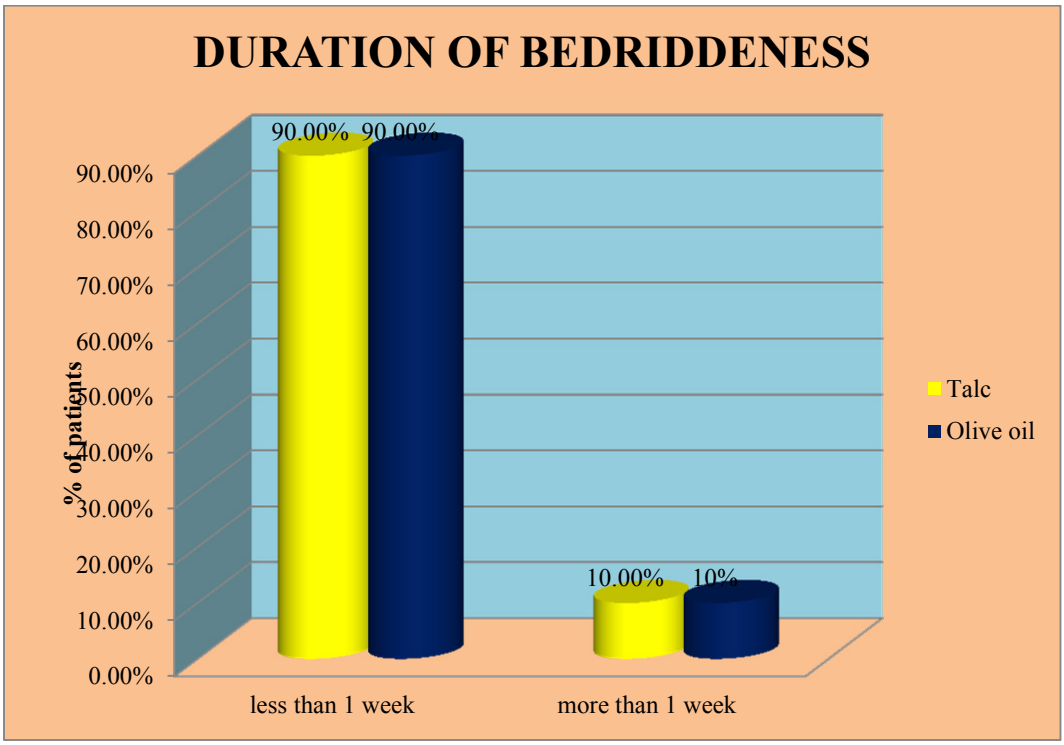


Fig- 10: Percentage distribution of duration of bedriddeness among bedridden patients

The above cylinder diagram depicts that majority of bedridden patients 27 (90.0%) were less than 1 week and least 3 (10.0%) were more than 1 week in both group.

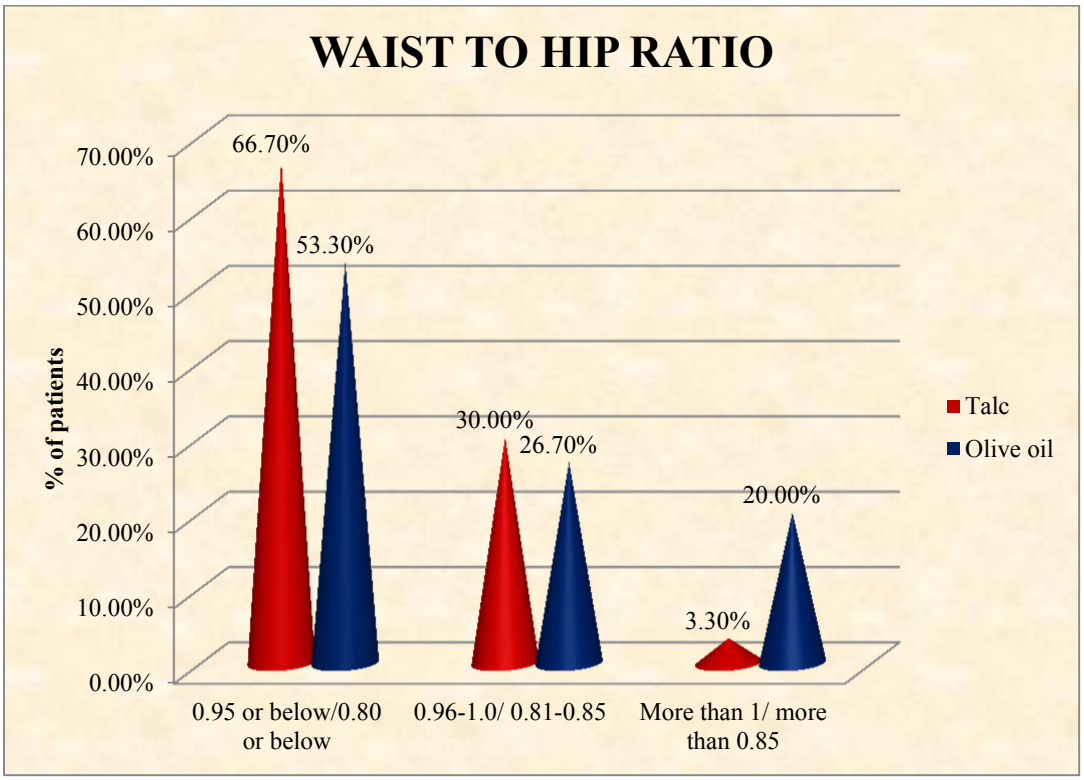


Fig- 11: Percentage distribution of waist to hip ratio among bedridden patients

The above cone diagram portrays that majority of the bedridden patients 20 (66.7%) in Group I and 16 (53.3%) in Group II were in the range of 0.95 or below (male)/ 0.80 or below (female) and least 1 (3.3%) in Group I and 6 (20.0%) in Group II were between More than 1/ more than 0.85.

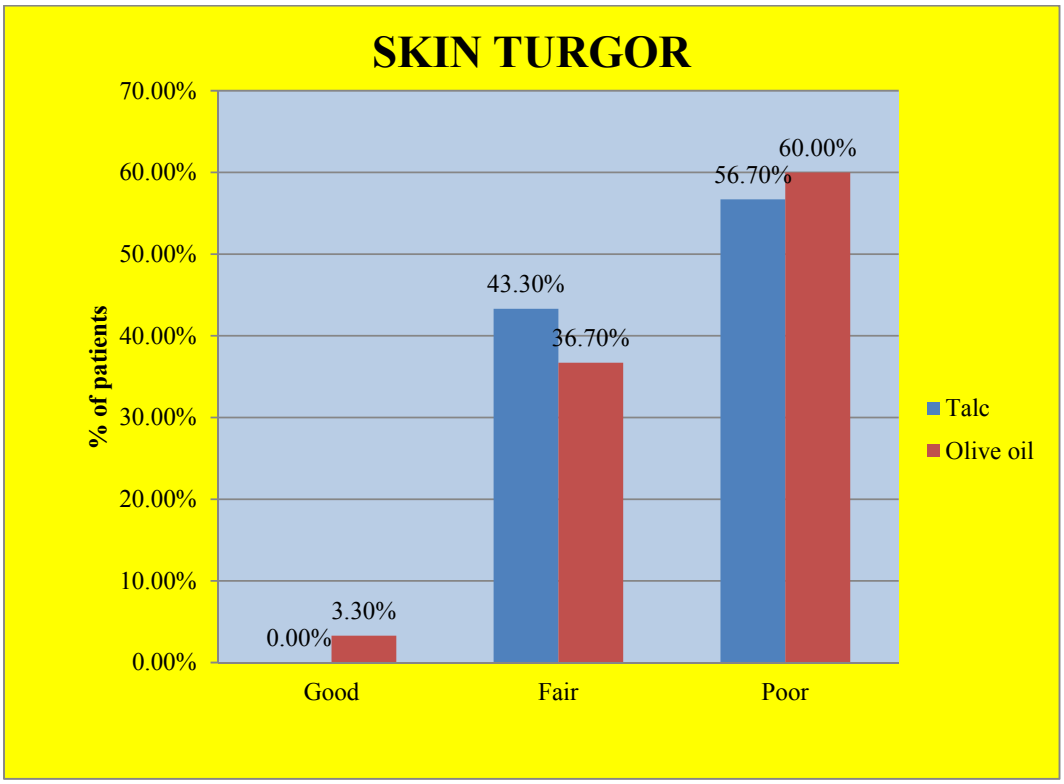


Fig- 12: Percentage distribution of skin turgor among bedridden patients

The above cylinder diagram depicts that majority of the bedridden patients 17 (56.7%) in Group I and 18 (60.0%) in Group II had poor skin turgor and least 1 (3.3%) had good skin turgor in Group II.

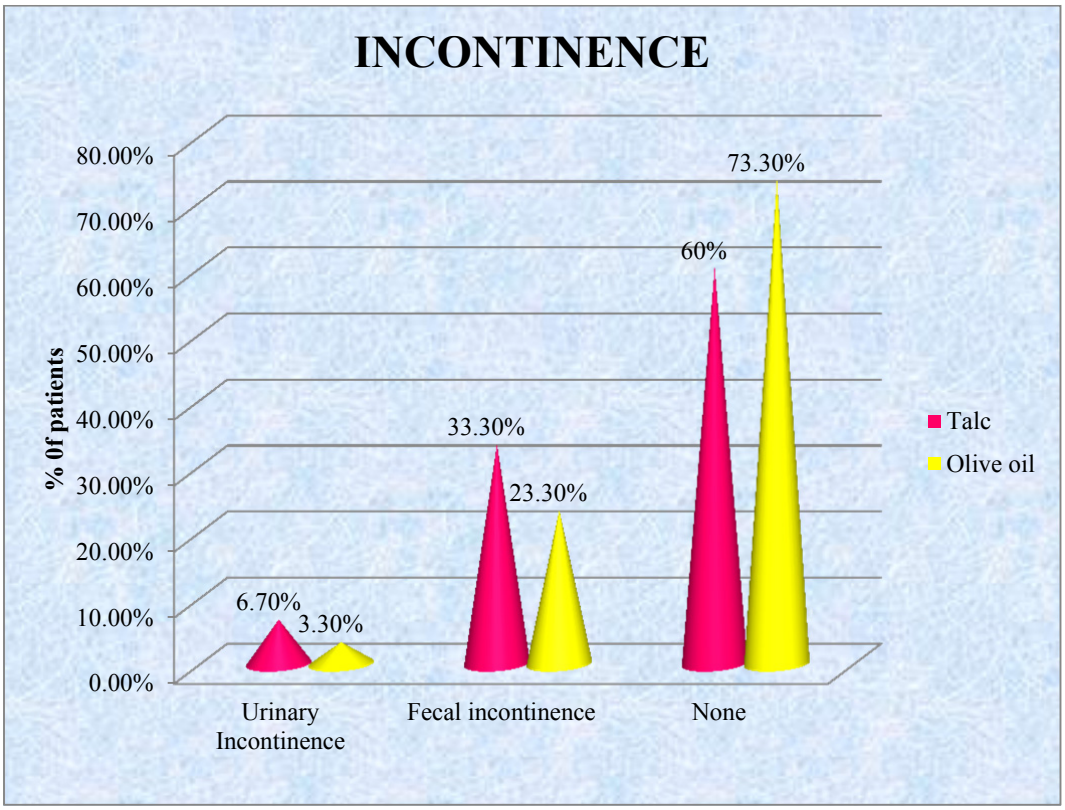


Fig - 13: Percentage distribution of incontinence among bedridden patients

The above cone diagram shows that majority 18(60.0%) in Group I and 22(73.3%) in Group II had no incontinence, and least 2 (6.7%) in Group I and 1 (3.3%) in Group II had urinary incontinence.

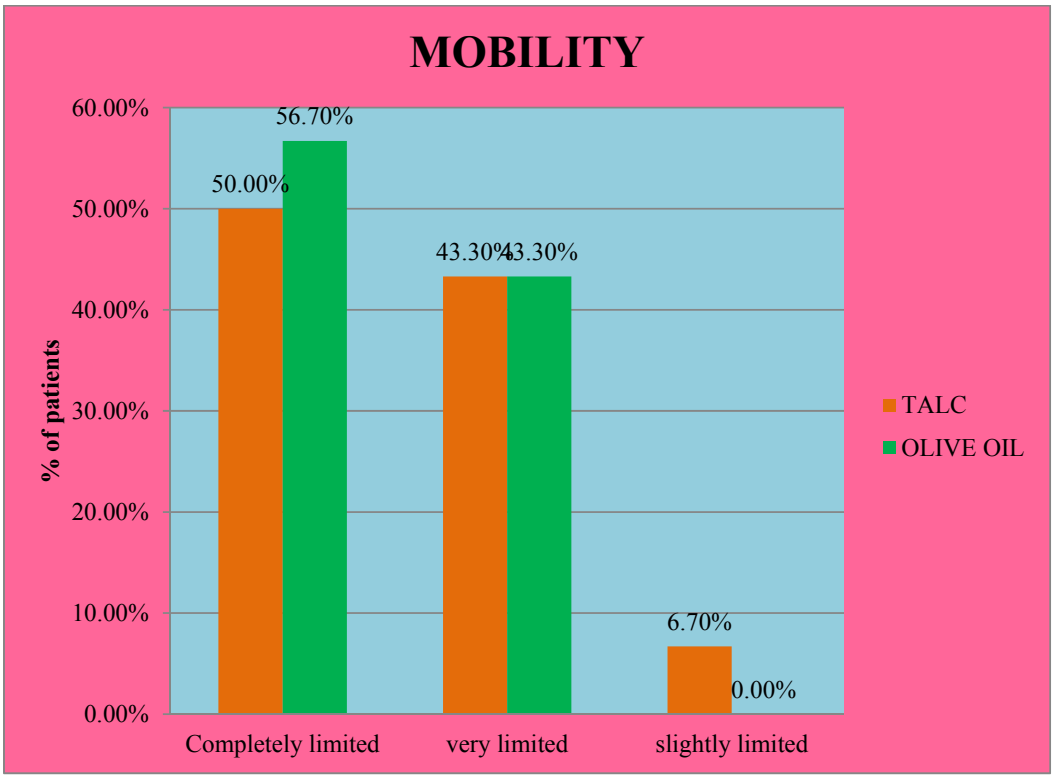


Fig- 14: Percentage distribution of mobility among bedridden patients

The above bar diagram depicts that majority 15 (50.0%) in Group I and 17 (56.7%) in Group II had complete mobility limitation and minority 2 (6.7%.0%) had slight mobility limitation in Group I.

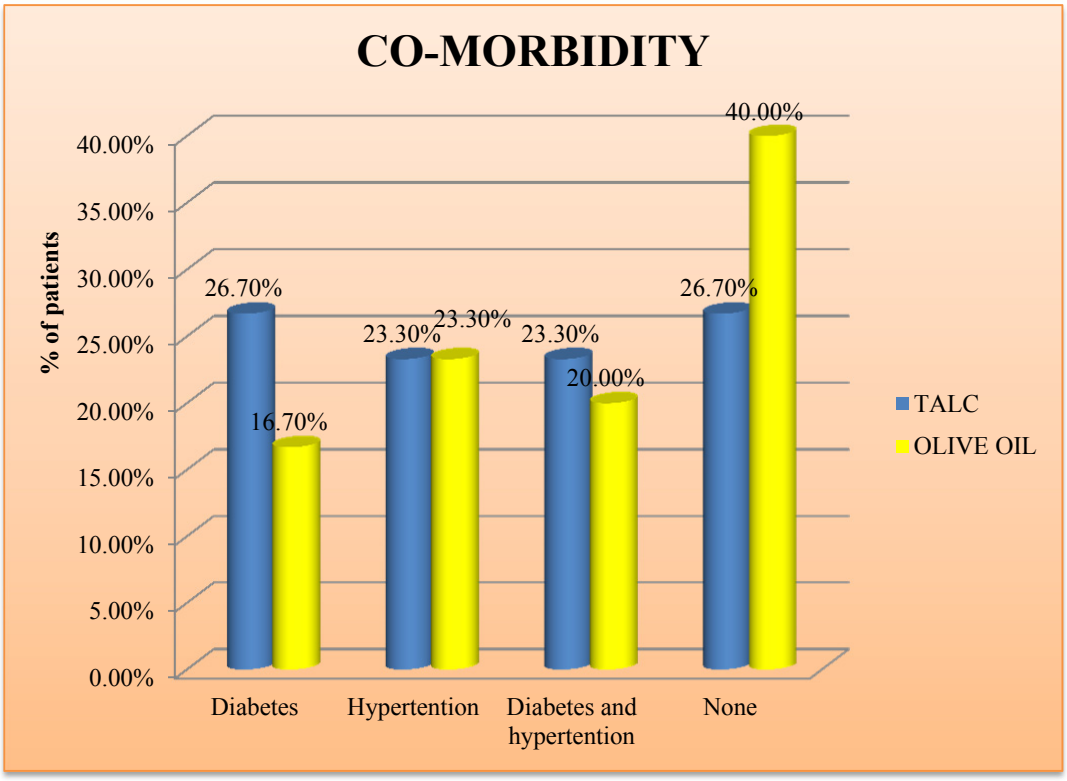


Fig - 15 : Percentage distribution of co-morbidity among bedridden patients

The above cylinder diagram depicts that majority of the bedridden patients 8 (26.7%) were diabetes and least 7 (23.3%) were hypertensive in Group I, where in Group II majority 12 (40.0%) had no co-morbid condition, and least 5 (16.7%) had diabetes.

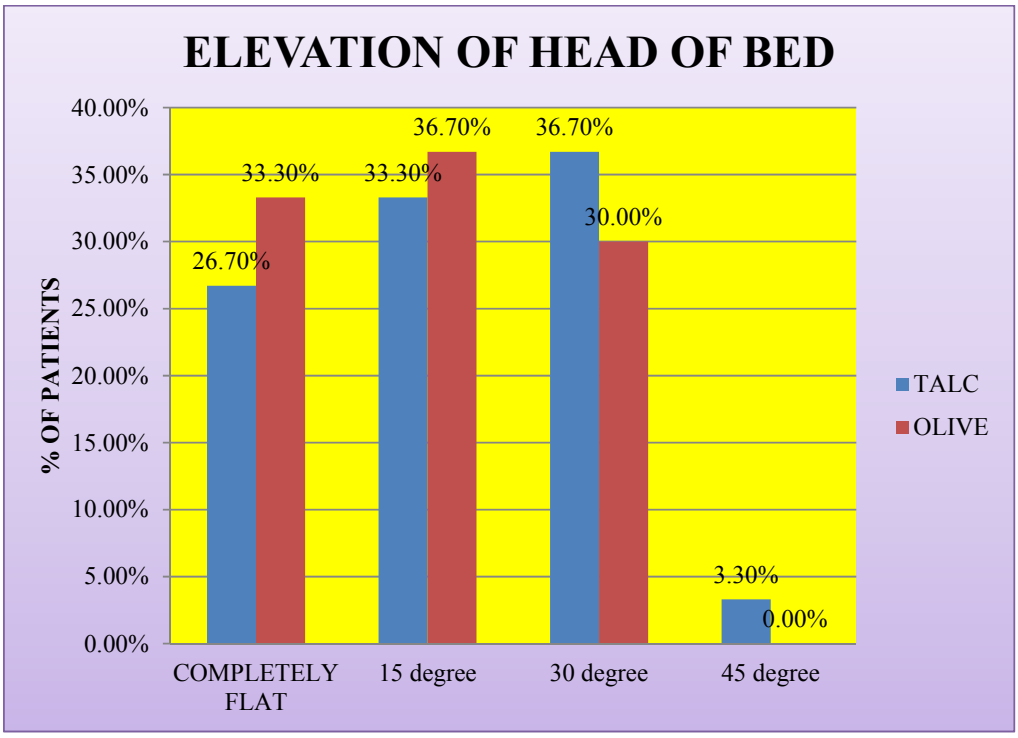


Fig - 16: Percentage distribution of elevation of head of bed among bedridden patients

The above bar diagram depicts that majority 11 (36.7%) had 30^0 elevation, and least 1(3.3%) had 45^0 elevation in Group I where in Group II majority 11 (36.7%) had 15^0 elevation and least 9 (30.0%) were 30^0 elevation.

Section-II

Description of risk level of decubitus ulcer among bedridden patients.

Table 3

Assessment of pre test risk level of decubitus ulcer among bedridden patients

Level of risk	Group				Chi square test
	Talc		Olive oil		
	f	%	f	%	
Low risk	0	0.0%	0	0.0%	$\chi 2$=0.60 p=0.44 DF=1 NS
Moderate risk	16	53.3%	13	43.3%	
High risk	14	46.7%	17	56.7%	
TOTAL	**30**	**100.0%**	**30**	**100.0%**	

P> 0.05 not significant NS= Not significant DF= Degrees of Freedom

The above table states that majority 16 (53.3%) of the bedridden patients had moderate risk, 14 (46.7%) had high risk and none of the patients had low risk level of Decubitus ulcer in Group I where in Group II majority 17 (56.7%) had high risk, 13 (43.3%) had moderate risk, and none of the patients had low risk level of Decubitus ulcer. Statistically there is no significant difference between experiment group I and experiment group II risk level. It was confirmed using chi square test.

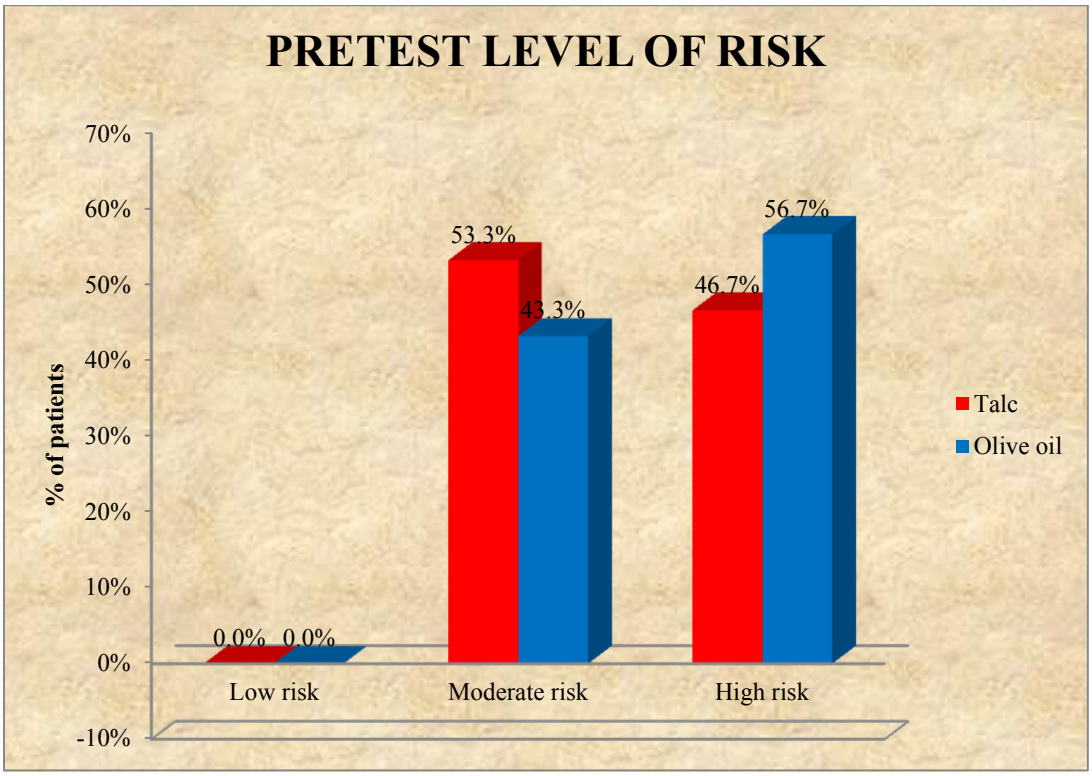


Fig - 17: Pre test risk level of decubitus ulcer among bedridden patients

The above bar diagram depicts that the majority 16 (53.3%) of the bedridden patients had moderate risk, 14 (46.7%) had high risk and none of the patients had low risk level of Decubitus ulcer in Group I where in Group II majority 17 (56.7%) had high risk, 13 (43.3%) had moderate risk and none of the patients had low risk level of Decubitus ulcer.

Section- III

Effectiveness of Talc vs Olive oil on prevention of decubitus ulcer among bedridden patients.

Table 4

Comparison of overall pretest risk score

	No. of patients	**Risk score Mean ± SD**	**Mean Difference**	**Student's independent t-test**
Talc Group	30	8.90± 2.35	0.53	t=0.99 P=0.32 DF =58 not significant
Olive oil Group	30	9.43± 1.73		

DF= Degrees of Freedom * very high significant at P≤0.001**

The above table depicts the mean of Group I and Group II was 8.90 and 9.43 respectively and Standard Deviation of Group I and Group II was 2.35 and 1.73 respectively. The mean difference was 0.53 between Group I and Group II. The independent "t" test value was 0.99. This showed that it was not statistically significant.

Table 5

Pretest and posttest level of risk score (Talc group)

Level of Risk score	TEST				Extended Mc Nemar's test
	Pretest		Posttest		
	f	%	f	%	
Low risk	0	0.0%	13	43.3%	χ^2=14.44p=0.001*** DF= 2 significant
Moderate risk	16	53.3%	13	43.3%	
High risk	14	46.7%	4	13.4%	
TOTAL	**30**	**100%**	**30**	**100%**	

DF= Degrees of Freedom* very high significant at P≤0.001**

The above table states that in the pretest score of Group I, majority 16 (53.3%) of the bedridden patients had moderate risk, 14 (46.7%) had high risk level of Decubitus ulcer. In the posttest 13 (43.3%) had low risk, 13 (43.3%) had moderate risk, 4 (13.4%) had high risk level of Decubitus ulcer. Statistically there is a significant difference between pre and post test risk score. It was confirmed using extended McNemar's test.

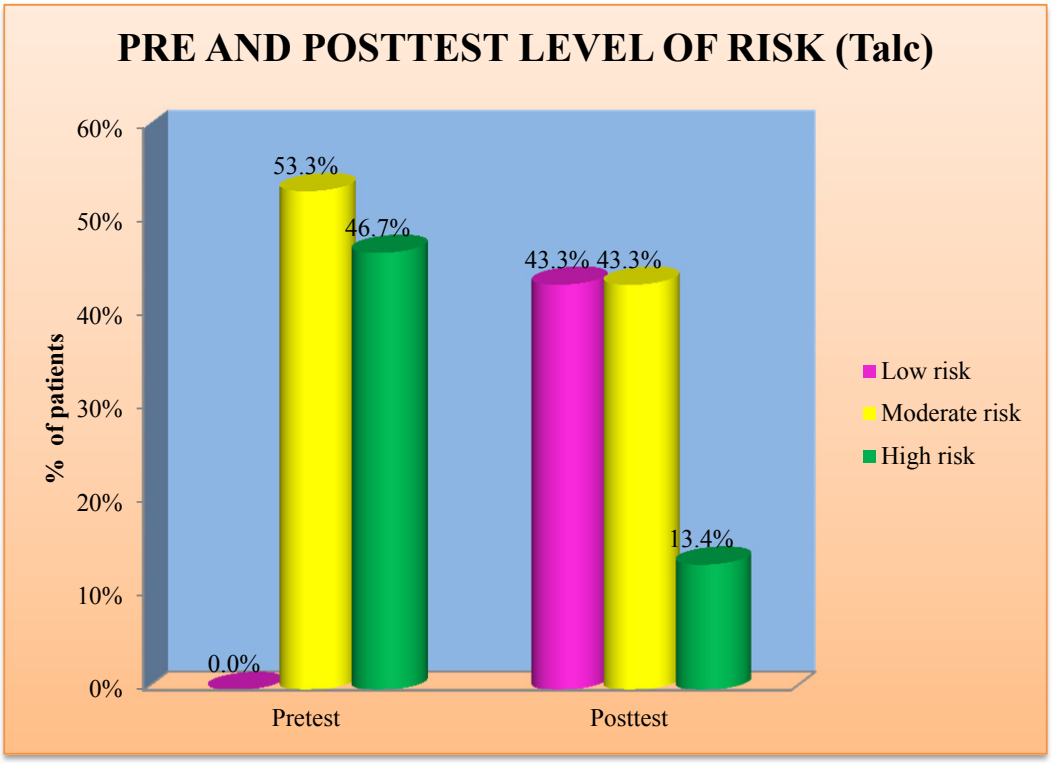


Fig 18 : Comparison of each subjects pretest and post test risk score (Talc)

The cylinder diagram quotes that in the pretest score of Group I, majority 16 (53.3%) of the bedridden patients had moderate risk, 14 (46.7%) had high risk level of Decubitus ulcer. In the posttest 13 (43.3%) had low risk, 13 (43.3%) had moderate risk, 4 (13.4%) had high risk level of Decubitus ulcer.

Table 6

Comparison of overall pretest and posttest risk score (Talc group)

	No. of patients	Risk score Mean ± SD	Mean Difference	Student's paired t-test
Pretest	30	8.90± 2.35	2.23	t=3.55 P=0.001*** DF =29 significant
Posttest	30	6.67± 3.09		

DF= Degrees of Freedom * significant at P≤0.001**

The above table depicts that the Mean of Pre test and Post test was 8.90 and 6.67 respectively and Standard Deviation of Pre test and Post test was 2.35 and 3.09 respectively. The Mean difference was 2.23 and Paired "t" test value was 3.55. This showed that there was significant difference between pre test and post test scores. Hence it revealed that talc application while back care is effective in reducing the risk level of decubitus ulcer among bedridden patients.

Table 7

Pretest and posttest level of risk score (Olive oil group)

Level of Risk score	TEST				Extended McNemar's test
	Pretest		Posttest		
	f	%	f	%	
Low risk	0	0.0%	22	73.3%	**$\chi 2$=22.00 p=0.001*** DF= 2 significant**
Moderate risk	13	43.3%	5	16.7%	
High risk	17	56.7%	3	10.0%	
TOTAL	**30**	**100%**	**30**	**100%**	

DF= Degrees of Freedom* very high significant at P≤0.001**

The above table states that in the pretest score of Group II, majority 17 (56.7%) of the bedridden patients had high risk, 13 (43.3%) had moderate risk and none of the patients had low risk level of Decubitus ulcer. In the posttest, majority 22 (73.3%) had low risk, 5 (16.7%) had moderate risk, 3 (10.0%) had high risk level of Decubitus ulcer. Statistically there is a significant difference between pre and post test risk score. It was confirmed using extended McNemar's test.

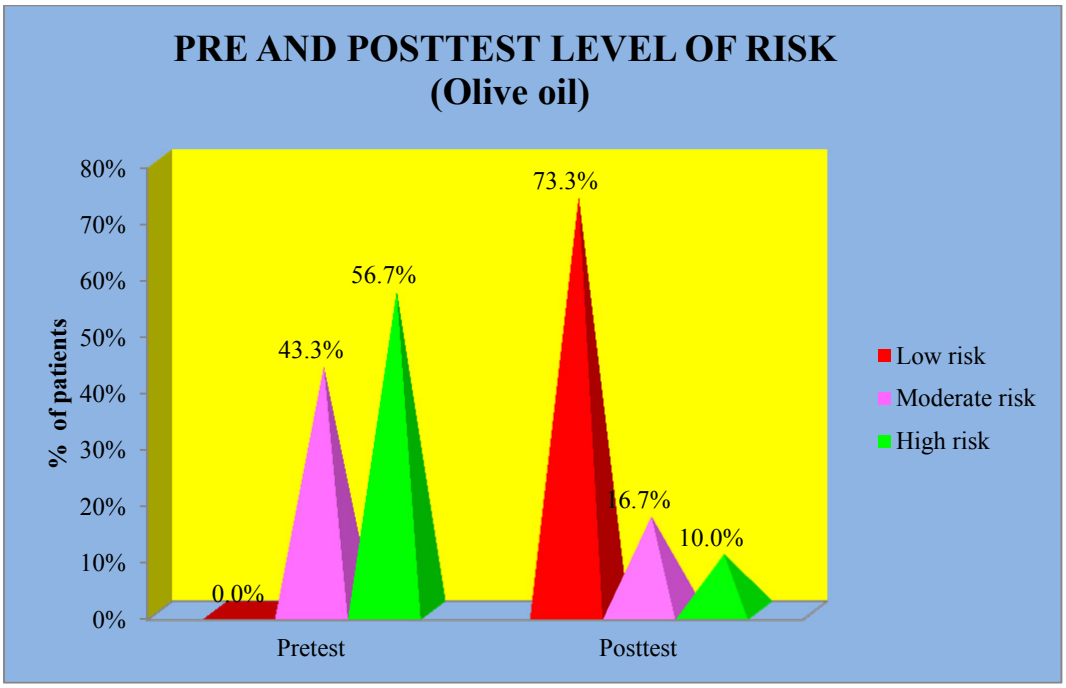


Fig 19 : Comparison of each subjects pretest and post test risk score (Olive oil)

The above Pyramid diagram portrays that in the pretest score of Group II, majority 17 (56.7%) of the bedridden patients had high risk 13 (43.3%) had moderate risk and none of the patients had low risk level of Decubitus ulcer. In the posttest, majority 22 (73.3%) had low risk, 5 (16.7%) had moderate risk, 3 (10.0%) had high risk level of Decubitus ulcer.

Table 8

Comparison of overall pretest and posttest risk score

(olive oil group)

	No. of patients	**Risk score Mean ± SD**	**Mean Difference**	**Student's paired t-test**
Pretest	30	9.43± 1.73	3.73	t=5.59 P=0.001***
Posttest	30	5.70± 3.29		DF=29 significant

DF= Degrees of Freedom * significant at P≤0.001**

The above table depicts that the Mean of Pre test and Post test was 9.43 and 5.70 respectively and Standard Deviation of Pre test and Post test was 1.73 and 2.39 respectively. The Mean difference was 3.73 and Paired "t" test value was 5.59. This showed that there was significant difference between pre test and post test scores. Hence it revealed that olive oil application while back care is very effective in reducing the risk level of decubitus ulcer among bedridden patients.

Table 9

Percentage of risk reduction score (Talc group)

	Max score	risk score Mean ± SD	Mean Difference in risk score with 95% Confidence interval	Percentage of risk reduction score with 95% Confidence interval
Pretest	15	8.90± 2.35	2.23(0.94 -3.51)	14.9% (6.3% –23.4%)
Posttest	15	6.67± 3.09		

The above table states the differences between pretest (59.3%) and the posttest (44.4%) mean score percentage. The difference is 14.9%. This findings shows that in the post test there was 14.9% reduction in the risk level of decubitus ulcer among bedridden patients and the mean difference is 2.23 with 95% confidence interval. The reduction score proved that Talc application during back massage is effective in reducing the risk of decubitus ulcer among bedridden patients.

Table 10

Percentage of risk reduction score (Olive oil group)

	Max score	Risk score Mean ± SD	Mean Difference in risk score with 95% Confidence interval	Percentage of risk reduction score with 95% Confidence interval
Pretest	15	9.43± 1.73	3.73(2.36 -5.10)	24.9% (15.7% –34.0%)
Posttest	15	5.70± 3.29		

The above table states the differences between pretest (62.9%) and the posttest (38.0%) mean score percentage. The difference is 24.9%. This findings shows that in the post test there was 24.9% reduction in the risk level of decubitus ulcer among bedridden patients and the mean difference is 3.73 with 95% confidence interval. The reduction score proved that Olive oil application during back massage is very effective in reducing the risk of decubitus ulcer among bedridden patients.

Table 11

Effectiveness of talc and olive oil on prevention of risk

	Maximum score	Pretest risk score	%	Posttest risk score	%	% Of reduction
Talc Group	15	8.90	59.3%	6.67	44.4%	**14.9%**
Olive oil Group	15	9.43	62.9%	5.70	38.0%	**24.9%**

The above table depicts that Talc group patients reduced 14.9% score and Olive oil group reduced 24.9% score. This percentage of difference 24.9 %-14.9 % =10% reduction shows Olive oil application is the more beneficial method than Talc.

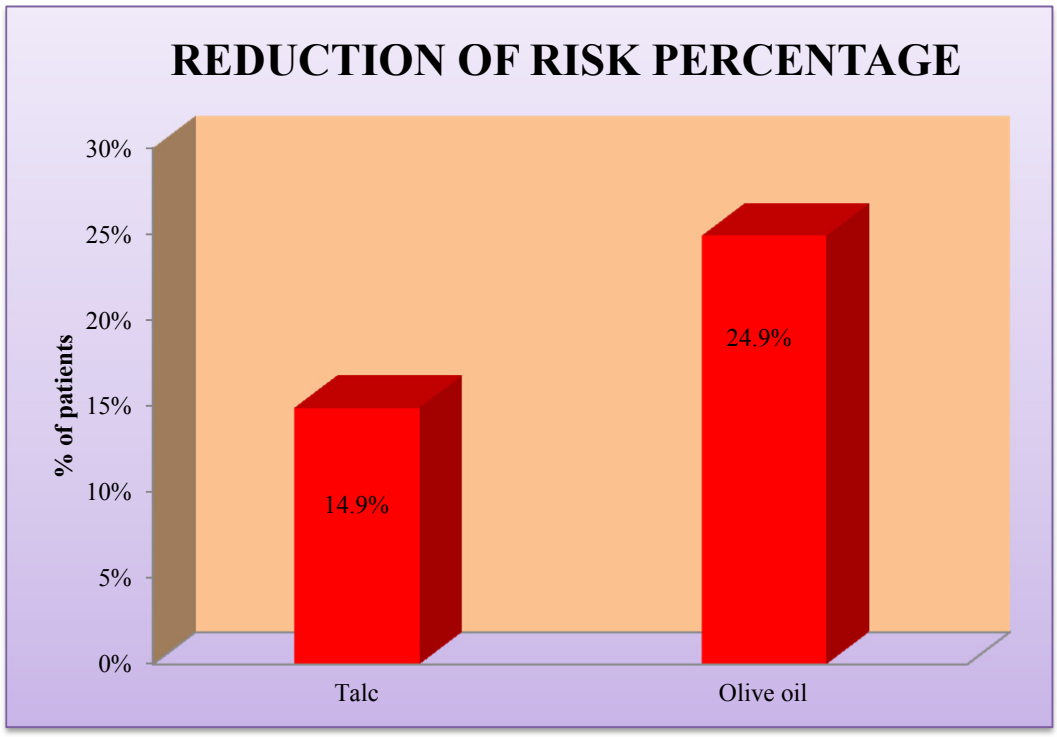


Fig - 20: Effectiveness of talc and olive oil on prevention of risk

The above bar diagram depicts the percentage of mean score of Talc group (14.9%) and Olive oil group (24.9%). Hence it revealed that application Olive oil during back massage is very effective than Talc in reducing the risk of decubitus ulcer among bedridden patients.

Section-IV

Association between the risk level of decubitus ulcer among bedridden patients with their selected Socio demographic variables and clinical variables

Table 12

Association between mean risk reduction score and demographic variable (Talc group)

Demographic variables		f	Mean risk reduction score						One way ANOVA F-test
			Pretest		Posttest		Mean Reduction=pre-post		
			Mean	SD	Mean	SD	Mean	SD	
Age	< 30 years	6	10.33	2.58	4.90	3.08	5.43	2.09	**F=2.74 P=0.05* S**
	31 - 40 years	4	9.25	2.22	4.35	3.40	4.90	2.05	
	41 - 50 years	5	8.00	2.24	6.00	4.98	2.00	2.29	
	51 - 60 years	8	9.00	2.51	7.70	3.12	1.30	3.93	
	> 60 years	7	8.29	2.36	7.16	1.07	1.13	3.26	
Gender	Male	21	8.71	2.41	5.71	3.41	2.00	1.76	**t=2.04 P=0.05* S**
	Female	9	10.33	2.29	3.46	2.39	3.79	3.06	
Religion	Hindu	28	8.86	2.34	6.64	2.77	2.21	3.44	F=1.04P=0.37 NS
	Christian	1	12.00	.	13.00	.	-1.00	.	
	Muslim	1	7.00	.	1.00	.	6.00	.	
Mother Tongue	Tamil	29	8.97	2.37	6.72	3.14	2.24	3.50	t=1.64 P=0.12 NS
	Malayalam	1	7.00	.	5.00	.	2.00	.	
Education status	Non formal education	5	8.40	2.88	9.00	3.24	-.60	.55	F=1.20 P=0.33 NS
	Primary education	8	7.88	2.03	5.00	2.07	2.88	3.23	
	SSLC	9	10.33	2.24	7.00	4.09	3.33	4.36	
	HSC	4	8.75	2.63	7.00	1.63	1.75	3.10	
	Graduate	4	8.50	1.73	6.00	2.00	2.50	3.32	

Occupation status	Un employee	9	8.44	2.30	6.33	2.78	2.11	3.02	
	Self employee	5	8.80	2.49	7.00	4.47	1.80	3.90	F=0.62
	Daily wages	14	8.93	2.53	6.93	3.17	2.00	3.78	P=0.60 NS
	Govt. employee	2	11.00	.00	5.50	.71	5.50	.71	
Family monthly income	Rs.1001-3000	8	8.25	2.87	7.00	2.20	1.25	3.58	F=0.50
	Rs.3001-6000	12	9.00	2.34	6.67	3.96	2.33	3.68	P=0.61 NS
	> Rs.6000	10	9.30	2.06	6.40	2.80	2.90	3.21	
Marital status	Un married	1	11.00	.	5.00	.	6.00	.	
	Married	26	8.92	2.37	6.73	3.32	2.19	3.50	F=0.68
	Widow/widower	3	8.00	2.65	6.67	.58	1.33	3.21	P=0.51 NS
Dietary pattern	Vegetarian	2	6.00	.00	6.00	.00	.00	.00	t=0.94
	Non-vegetarian	28	9.11	2.30	6.71	3.21	2.39	3.51	P=0.35 NS
Personal habits	Smoking	2	8.50	3.54	8.00	2.83	.50	6.36	
	Alcoholism	3	7.00	1.00	4.00	2.65	3.00	3.00	F=0.20
	Smoking & Alcoholism	15	9.27	2.40	6.93	3.63	2.33	3.74	P=0.89 NS
	None	10	9.00	2.40	6.80	2.25	2.20	3.01	

Not significant P> 0.05 NS= Not significant * significant at P≤0.05
S= significant

The above table explains the association between risk reduction score among bedridden patients with their selected socio demographic variables such as age those who are < 30 years (F= 2.74 P-0.05) and gender who are female (F= 2.04 P=0.05). All other socio demographic variables were not significantly associated with the risk level of decubitus ulcer score.

Table 13

Association between mean risk reduction score and clinical variable (Talc group)

Clinical variables		f	Mean risk reduction score						One way ANOVA F-test
			Pretest		Posttest		Mean Reduction= pre-post		
			Mean	SD	Mean	SD	Mean	SD	
Level of consciousness	Conscious	12	8.83	2.48	4.43	2.96	4.40	3.63	**F=3.54 P=0.05* S**
	Semi conscious	4	8.75	2.63	5.95	.50	2.80	3.00	
	Unconscious	14	9.00	2.35	7.46	3.56	1.54	1.50	
Duration of bedriddeness	Less than 1 week	27	9.15	2.35	6.63	3.27	2.52	3.51	t=1.91 P=0.17 NS
	More than 1 week	3	6.67	.58	7.00	.00	-.33	.58	
Waist Hip Ratio	0.95 or below (male)/ 0.80 or below (female)	20	8.55	2.46	6.75	3.31	1.80	3.38	F=1.68 P=0.20 NS
	0.96-1.0/ 0.81-0.85	9	9.44	2.13	6.89	2.67	2.56	3.32	
	More than 1/ more than 0.85	1	11.00	.	3.00	.	8.00	.	
Skin turgor	Good	1	6.00	.	6.00	.	.00	.	F=0.29 P=0.74 NS
	Fair	13	9.54	2.15	6.92	3.80	2.62	3.45	
	Poor	16	8.56	2.45	6.50	2.63	2.06	3.59	
Incontinence	Urinary incontinence	2	6.50	.71	8.00	1.41	-1.50	.71	F=4.51 P=0.02 S
	Fecal incontinence	10	8.40	2.72	7.80	2.86	.60	3.34	
	None	18	9.44	2.09	5.89	3.22	3.56	3.03	
Mobility	Completely limited	15	9.80	2.18	6.80	3.53	4.76	3.57	**F=3.36 P=0.05* S**
	Very limited	13	7.54	2.03	6.69	2.90	1.65	3.02	
	Slightly limited	2	11.00	.00	5.50	.71	2.10	1.25	

Co-Morbidity	Diabetes	8	8.75	2.25	7.75	3.41	1.00	3.12	
	Hypertension	7	8.29	2.29	6.00	4.28	2.29	3.55	F=0.51
	Diabetes and Hypertension	7	8.43	2.44	5.86	1.46	2.57	3.64	P=0.67 NS
	None	8	10.00	2.51	6.88	2.85	3.13	3.80	
Head of bed	Completely flat	8	11.00	1.31	8.38	3.81	2.63	3.74	
	15	10	8.60	2.37	6.70	3.30	1.90	3.75	F=0.27 P=0.84 NS
	30	11	7.45	1.86	5.45	1.97	2.00	3.29	
	45	1	11.00	.	6.00	.	5.00	.	

Not significant P> 0.05 NS= Not significant * significant at P ≤ 0.05

S = Significant

The above table explains the association between risk reduction score among Group I bedridden patients with their selected clinical variables such as Level of consciousness those who are conscious (F=3.54 P=0.05) and mobility, whose mobility were completely limited (F=3.36 P=0.05) All other clinical variables were not significantly associated with the risk level of decubitus ulcer score

Table 14

Association between mean risk reduction score and demographic variable

(Olive oil group)

Demographic variables		f	Mean risk reduction score						One way ANOVA F-test
			Pretest		Post test		Mean Reduction= pre-post		
			Mean	SD	Mean	SD	Mean	SD	
Age	< 30 years	7	10.44	1.68	4.87	3.34	5.57	2.25	**F=3.34 P=0.05* S**
	31 - 40 years	4	9.85	1.50	4.97	4.35	4.88	2.10	
	41 - 50 years	10	9.10	1.52	6.90	3.60	2.20	2.26	
	51 - 60 years	4	8.00	0.00	6.64	.58	1.36	3.58	
	> 60 years	5	8.20	2.05	7.00	3.46	1.20	3.66	
Gender	Male	23	9.13	1.60	5.70	3.36	2.78	2.75	**t=2.05 P=0.05* S**
	Female	7	10.43	1.90	5.71	3.30	5.51	4.11	
Religion	Hindu	27	9.52	1.78	5.70	3.43	3.81	3.78	F=0.27 P=0.76 NS
	Christian	1	10.00	.	5.00	.	5.00	.	
	Muslim	2	8.00	.00	6.00	2.83	2.00	2.83	
Mother Tongue	Tamil	29	9.41	1.76	5.48	3.12	3.93	3.55	t=1.22 P=0.15 NS
	Telugu	1	10.00	.	12.00	.	-2.00	.	
Education status	Non formal education	2	10.00	2.83	3.00	1.41	7.00	1.41	F=1.21 P=0.33 NS
	Primary education	13	9.31	1.65	5.31	3.25	4.00	3.81	
	SSLC	10	9.10	1.79	6.30	3.16	2.80	3.58	
	HSC	3	11.00	1.73	5.33	4.16	5.67	3.21	
	Graduate	2	9.00	1.41	8.50	4.95	.50	3.54	
Occupation status	Un employee	8	9.13	1.64	6.00	3.89	3.13	4.19	F=0.13P= 0.94 NS
	Self employee	5	10.40	2.19	6.20	3.63	4.20	2.68	
	Daily wages	16	9.25	1.69	5.44	3.18	3.81	3.92	
	Govt. employee	1	10.00	.	5.00	.	5.00	.	

Family monthly income	Rs.1001-3000	4	8.75	1.50	5.00	.00	3.75	1.50	F=0.84 P=0.44 NS
	Rs.3001-6000	17	9.41	1.77	5.00	3.30	4.41	3.55	
	> Rs.6000	9	9.78	1.86	7.33	3.64	2.44	4.42	
Marital status	Un married	2	9.50	2.12	7.50	3.54	2.00	5.66	F=0.47 P=0.49 NS
	Married	28	9.43	1.75	5.57	3.30	3.86	3.60	
	Widow/widower		8.00	.	5.00	.	3.00	.	
Dietary pattern	Vegetarian	1	9.48	1.74	5.72	3.35	3.76	3.72	t=0.20 P=0.84 NS
	Non-vegetarian	29	10.50	.71	5.00	.00	5.50	.71	
Personal habits	Smoking	2	11.00	1.41	10.50	.71	.50	2.12	F=0.85 P=0.45 NS
	Alcoholism	2	8.67	1.41	5.17	3.11	3.50	3.68	
	Smoking & Alcoholism	18	10.50	1.85	5.88	3.72	4.63	4.10	
	None	8	9.14	1.68	5.86	3.34	3.29	3.25	

Not significant P> 0.05 NS= Not significant * significant at P≤0.05

S= significant

The above table explains the association between risk reduction score among Group II bedridden patients with their selected socio demographic variables such as age those who are < 30 years (F= 3.34 P=0.05)and gender who are female (F= 2.05 P=0.05). All other socio demographic variables were not significantly associated with the risk level of decubitus ulcer score.

Table 15

Association between mean risk reduction score and clinical variables

(Olive oil group)

Clinical variables		f	Mean risk reduction score						One way ANOVA F-test
			Pretest		Posttest		Mean Reduction=pre-post		
			Mean	SD	Mean	SD	Mean	SD	
Level of consciousness	Conscious	14	10.36	1.78	5.83	3.31	4.53	3.63	**F=3.44 P=0.05* S**
	Semi conscious	3	7.00	.00	4.97	3.21	2.03	3.21	
	Unconscious	13	5.85	1.77	4.15	3.55	1.70	1.67	
Duration of bedriddeness	Less than 1 week	27	9.44	1.72	5.44	3.24	4.00	3.67	t=1.45 P=0.23 NS
	More than 1 week	3	9.33	2.31	8.00	3.46	1.33	3.06	
Waist to hip ratio	0.95 or below (male)/ 0.80 or below (female)	16	9.38	1.63	5.31	3.28	4.06	3.02	F=0.68 P=0.52 NS
	0.96-1.0/ 0.81-0.85	8	9.88	2.10	5.63	3.16	4.25	4.53	
	More than 1/ more than 0.85	6	9.00	1.67	6.83	3.82	2.17	4.22	
Skin turgor	Good	1	8.00	.	11.00	.	3.00	.	F=0.85 P=0.45 NS
	Fair	11	10.00	1.84	5.64	3.67	4.36	3.50	
	Poor	18	9.17	1.65	5.44	2.97	3.72	3.56	
Incontinence	Urinary incontinence	1	8.00	.	2.00	.	6.00	.	F=0.56 P=0.57 NS
	Fecal incontinence	7	9.43	2.15	4.71	2.87	4.71	3.99	
	None	22	9.50	1.65	6.18	3.38	3.32	3.63	

Mobility	Completely limited	17	9.71	1.90	5.76	3.19	4.94	3.56	**t=2.01P=0.05* S**
	Very limited	13	9.08	1.50	5.62	3.55	2.46	3.03	
Co-morbidity	Diabetes	5	9.80	2.49	6.20	2.95	3.60	4.98	F=0.64 P=0.59 NS
	Hypertension	7	9.86	1.86	4.57	2.70	5.29	1.89	
	Diabetes and Hypertension	6	9.17	1.83	6.67	3.01	2.50	4.46	
	None	12	9.17	1.40	5.67	3.98	3.50	3.58	
Elevation of head of bed	Completely flat	10	9.10	1.66	5.30	3.43	3.80	3.05	F=0.05 P=0.95 NS
	15^{o}	11	9.64	1.69	6.18	3.57	3.45	3.86	
	30^{o}	9	9.56	2.01	5.56	3.09	4.00	4.39	

Not significant P> 0.05 NS= Not significant * significant at P≤0.05

S= significant

The above table quotes the association between risk reduction score among Group II bedridden patients with their selected clinical variables such as Level of consciousness those who are conscious (F=3.44 P=0.05) and mobility, whose mobility were completely limited (F=2.01 P=0.05) All other clinical variables were not significantly associated with the risk level of decubitus ulcer score.

DISCUSSION

CHAPTER - V

DISCUSSION

This chapter deals with detailed discussion of the data and results interpreted from the statistical, inferential analysis. The present study was focused on evaluate the effectiveness of Talc vs Olive Oil on prevention of Decubitus ulcer among bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai. Bedridden patients at Critical Care Units are at greater risk than other patients due to the immune compromised state because of the antibiotic usage, stress, invasive lines, mechanical ventilator, prolonged stay ,severity of illness and environment of the critical care unit itself. They usually have many invasive equipment in place. Placement of these devices may keep patients continuously bedridden, a situation that may contribute to risk of decubitus ulcer. Mobility and self-care activities are also deficit in them. All these produce more risk of decubitus ulcer to the bedridden patients. Talc and Olive oil application during effleurage and vibration techniques of back massage were effective in reducing the risk of decubitus ulcer among bedridden patients.

In this study, Researcher adopted a Quantitative evaluative approach, True experimental - pre-test post test design and 60 samples were selected by simple random sampling technique. Modified Orem's self care theory was adopted as a conceptual framework. Pre test was conducted with Modified European Pressure Ulcer Advisory Panel (EPUAP) grading system for decubitus ulcer. Talc applied to Group I and olive oil applied to Group II during effleurage and vibration techniques of back massage given for seven consecutive days and post test was conducted on 8 th day with the same tool and categorized based on their risk level.

Discussion of socio demographic variables

Regarding Age, majority of bedridden patients 8 (26.7%), were between 51-60 yrs in Group I and 10 (33.4%) were between 41-50 yrs in Group II and least 4(13.3%) were between 31-40 yrs in both group.

With regard to Gender, majority of bedridden patients 21(70%) in Group I and 23(76.7%) in Group II were males and least 9 (30.0%) in Group I and 7 (23.3%) in Group II were females.

With regard to Religion, majority of bedridden patients 28 (93.4%) in Group I and 27 (90.0%) in Group II were Hindu, and least 1 (3.3%) was Christian in both group.

While discussing Mother Tongue, majority of the bedridden patients 29 (96.7%) were speaking Tamil in Group I and II and remaining 1 (3.3%) was speaking Malayalam in Group I and 1 (3.3%) was speaking Telugu in Group II.

According to Education, majority of the bedridden patients 9 (30.0%) in Group I and 10 (33.3%) in Group II had secondary education and minority 4 (13.3) in Group I and 2 (6.7%) in Group II were graduate in both group.

By seeing Occupation majority 14 (46.6%) were Daily wages, and least 2 (6.7%) were Govt. employee in Group I, in Group II majority 16 (53.3%) were Daily wages, and minority 1 (3.3%) was Govt. employee.

While discussing Income, majority 12 (40.0%) in Group I and 17 (56.7%) in Group II were in the income of Rs.3001-6000, and minority 8(26.7%.0%) in Group I and 4 (13.3%.0%) in Group II earns between Rs.1001-3000

Regarding Marital status, majority of the bedridden patients 26 (86.7%) were married and least in Group I where in Group II majority 28 (93.3%) were married and 2 (6.7%)were unmarried.

By seeing Dietary pattern majority 28 (93.3%) were non vegetarian and least 2 (6.7 %) were vegetarian in Group I where in Group II majority 29 (96.7%) were non vegetarian and 1 (3.3 %) were vegetarian in Group II.

With regard to Personal habits, majority of bedridden patients 15 (50.0%) in Group I and 18 (60.0%) in Group II were smokers and alcoholics and least 2 (6.7%) were smokers in both group

Discussion of clinical variables

With regard to Level of consciousness, majority of bedridden patients 14 (46.7%) were unconscious, and least 4 (13.3%) were semi conscious in Group I and 14 (46.7%) were conscious and minority 3 (10.0%) were semi conscious in Group II

With regard to Duration of bedriddeness, majority of bedridden patients 27 (90.0%) were less than 1 week and least 3 (10.0%) were more than 1 week in both group.

While discussing Waist Hip Ratio, majority of the bedridden patients 20 (66.7%) in Group I and 16 (53.3%) in Group II were in the range of 0.95 or below (male)/ 0.80 or below (female) and least 1 (3.3%) in Group I and 6 (20.0%) in Group II were between More than 1/ more than 0.85

According to Skin turgor, majority of the bedridden patients 17 (56.7%) in Group I and 18 (60.0%) in Group II had poor skin turgor and least 1 (3.3%) had good skin turgor in Group II

By seeing Incontinence, majority 18 (60.0%) in Group I and 22 (73.3%) in Group II had no incontinence, and least 2 (6.7%) in Group I and 1 (3.3%) in Group II had urinary incontinence.

While discussing Mobility, majority 15 (50.0%) in Group I and 7 (56.7%) in Group II had complete mobility limitation and minority 2 (6.7%.0%) had slight limited mobility in Group I.

With regard to Co-morbidity, majority of the bedridden patients 8 (26.7%) were diabetes and least 7 (23.3%) were hypertensive in Group I, where as in Group II 7 (23.3%) were hypertensive, and 5 (16.7%) had diabetes.

By seeing Elevation of head of bed, majority 11 (36.7%) had 30^0 elevation, and least 1(3.3%) had 45^0 elevation in Group I where in Group II majority 10 (33.3%) were completely flat and least 9 (30.0%) were 30^0 elevation of head of bed.

Findings based on its objectives

The first objective of the study was to assess the risk level of Decubitus ulcer among bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai.

In pretest, majority 16 (53.3%) of the bedridden patients had moderate risk, 14 (46.7%) had high risk level of Decubitus ulcer. In the posttest, 13 (43.3%) had low risk, 13 (43.3%) had moderate risk, 4 (13.4%) had high risk level of Decubitus ulcer in Group I

In pretest, majority 17 (56.7%) of the bedridden patients had high risk, 13 (43.3%) had moderate risk and none of the patients had low risk level of Decubitus ulcer. In the posttest, majority 22 (73.3%) had low risk, 5 (16.7%) had moderate risk, 3 (10.0%) had high risk level of Decubitus ulcer in Group II

The present study findings was supported by a study done by Banashree Hawaibam et al.(2016), assessed the effectiveness of olive oil massage on

prevention of decubitus ulcer among 40 bedridden patients for 7 days. Olive oil massage to experimental group (20) twice daily and routine care (talc) for control group and findings of the study shown that the pretest mean score of experimental group was 1 which reduced to 0.6 in posttest and pretest mean score of control group was 0.6 which increased to 2 in posttest. The study revealed that olive oil massage was effective on prevention of decubitus ulcer.

It was also supported by the study conducted by Yadav G, et al, (2010), evaluate the efficacy of topical olive oil for reducing the risk of decubitus ulcer among 60 bedridden patients for 8 days. Group I received 10 ml of saturated olive oil, whereas Group II received 8 gm of talc. For both groups the olive oil/talc were applied at the entire back. Pressure ulcer risk level was assessed by using European Pressure Ulcer Advisory Panel grading system and revealed that the incidence of pressure ulcer risk level was similar between groups: in the olive oil group 85% (23/28) compared to 77% (20/30) in the talc group (P=0.19). The study suggested that the topical application of talc is cheaper than olive oil and has similar efficacy, it may be a suitable alternative for reducing the incidence of pressure ulcer risk.

The second objective of the study was to evaluate the effectiveness of Talc on prevention of Decubitus ulcer among intervention Group I bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai

In Group I, the pretest mean risk score was 8.90 with standard deviation of 2.35 and the mean post test risk score was 6.67 with standard deviation of 3.09. The mean difference is 2.23. The obtained student Paired “t” test value was 3.55 which was significant at $p < 0.001$ level. This revealed that there was a significant difference in the mean risk scores between the pretest and posttest. The difference was due to the intervention, application of talc while back care. Hence this study proved that the talc was effective in reducing the risk of decubitus ulcer among bedridden patients.

This finding of the study was consistent with a study done by Dorota m, gertig et, al (2015), effectiveness of nursing intervention -position changing second hourly, providing clean bed, back massage with talc twice daily on prevention of decubitus ulcer among 100 intensive care unit clients for 5 days in Mangalore. Experimental group received back massage with talc and group received back massage with placebo treatment, ANOVA and 't' test results showed that the experimental group's pretest score 7.67 reduce to 1.47 on the fifth day of intervention and control group's pretest score 7.53 reduce to 6.87 on the fifth day. The researcher concluded that back massage with talc was effective (p=0.0005) in reducing the risk of pressure ulcer.

It was also supported by the study conducted by M. R. Nott1, J. L. Peacock (2012), evaluate the effectiveness of back massage after 5 minutes topical application of talc among 120 intensive care units bedridden patients. Risk of decubitus ulcer was estimated both on a linear scale and verbally after use of the talc for 5 to 10 minutes (60), a placebo cream (60). The study revealed that decubitus ulcer risk was significantly less after only 5 minutes of the applying back massage with the use of talc (p = 0.002). The result stated that the talc can be used to reduce the risk of decubitus ulcer among bedridden patients in intensive care units.

Thus the stated Hypothesis H_1: There is a significant difference between pretest and post test level of Decubitus ulcer risk among intervention Group I bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai was accepted.

The third objective of the study was to evaluate the effectiveness of Olive oil on prevention of Decubitus ulcer among intervention Group I bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai

In Group II, the mean pretest risk score was 9.43with standard deviation of 1.73 and the mean post test risk score was 5.70 with standard deviation of 3.29. The mean difference is 3.73. Percentage of mean score in the Pre test was 15.7% and in the Post test was 34.0%. The obtained student Paired "t" test value was 5.59 which was significant at $p < 0.001$ level. This revealed that there was a significant difference in the mean risk scores between the pretest and posttest. The difference was due to the intervention, application of olive oil while back care. Hence this study proved that the olive oil was very effective in reducing the risk of decubitus ulcer among bedridden patients.

This finding of the study was consistent with a study done by Zahra Abbas Ali Madadi, et al (2014), assess the effectiveness of topical olive oil on prevention of pressure ulcer among 60 bedridden patients for three weeks. The control group (20 male, 10 female), had received routine skin care, while the intervention group (19 male and 11 female) had received topical Olive oil in addition to the routine care and Chi-square, T-test and Fisher's tests results showed that the 5 patients (16%) in experimental group had developed bedsore after an average of 18.73 ±5.36 days and 12 patients (40%) in control group had developed bedsore after an average of 15.46 ±7.40 day and the risks of developing bedsores between two groups were statistically significant (P=0.03). The author concluded that topical olive oil has potential effects to prevent decubitus ulcer in I.C.U patients.

It was also supported by the study conducted by LeovigildoGinel-Mendoza et al.,(2013), assess the effectiveness of olive oil versus HOFA (hyper oxygenated fatty acids) on reduction of risk of pressure ulcers among bedridden patients in critical care units for 16 weeks. The intervention group was treated by application of an olive-oil-based formula whereas the control group was treated by

application of HOFA. The study reveals that regular use of olive-oil-based formulas were effective (p=0.005) in preventing pressure ulcers in immobilized patients, thus leading to a more cost-effective product and an alternative treatment.

Thus the stated Hypothesis H_2: There is a significant difference between pretest and post test level of Decubitus ulcer risk among intervention Group II bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai was accepted.

The fourth objective of the study was to compare the effectiveness of Talc and Olive Oil on prevention of Decubitus ulcer among intervention Group I and Group II bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai.

While comparing the risk reduction score, Talc group patients reduced 14.9% score and Olive oil 24.9% reduced score. This percentage of difference 24.9%-14.9% =10% reduction shows Olive oil application is the more beneficial method than Talc.

This finding of the study was consistent with a study done by Yadav G, et al, (2010)**,** evaluate the efficacy of topical olive oil for reducing the risk of decubitus ulcer among 60 bedridden patients for 8 days. Group I received 10 ml of saturated olive oil, whereas Group II received 8 gm of talc. For both groups the olive oil/talc were applied at the entire back. Pressure ulcer risk level was assessed by using European Pressure Ulcer Advisory Panel grading system. The study revealed that the incidence of pressure ulcer risk level was similar between groups: in the olive oil group 85% (23/28) compared to 77% (20/30) in the talc group (P=0.19). The study suggested that the topical application of olive oil has more effective for reducing the incidence of pressure ulcer risk.

Thus the stated Hypothesis H_3: There is a significant difference in the post test level of decubitus ulcer risk between intervention Group I and intervention Group II bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai was accepted.

The fifth objective of the study was to associate the level of Decubitus ulcer risk among intervention Group I and intervention Group II bedridden patients in Critical Care Unit with their selected socio demographic variables and clinical variables.

One way ANOVA F-test analysis was done to find out the association between the post test scores of decubitus ulcer risk and selected socio demographic variables and clinical variables. The study revealed a significant association between the level of decubitus ulcer risk and selected socio demographic variables such as age those who are < 30 years (F= 2.74 P-0.05)and gender who are female (F= 2.04 P=0.05) and the clinical variables such as Level of consciousness those who are conscious (F=3.54 P=0.05) and mobility , whose mobility were completely limited (F=3.36 P=0.05) among Group I bedridden patients.

In Group II, significant association between the level of decubitus ulcer risk and selected socio demographic variables such as age those who are < 30 years (F= 3.34 P-0.05)and gender who are female (F= 2.05 P=0.05) and the clinical variables such as Level of consciousness those who are conscious (F=3.44 P=0.05) and mobility , whose mobility were completely limited (F=2.01 P=0.05) among bedridden patients.

There was no significant association between the posttest level of decubitus ulcer risk and the other socio demographic variables such as religion, mother tongue,

education, occupation, income, marital status, Dietary pattern, Personal habits and the clinical variables such as duration of bedriddeness, waist to hip ratio, skin turgor, incontinence, co-morbidity, elevation of head of bed.

Findings of the study was congruent with a study done by Tescher et al. (2012), identify high-risk patients and the specific factors that placed them at high risk from January 1, 2015 to December 31, 2015 among 12,566 patients. Medical records of each subject were examined and only hospital-acquired stage 2 to 4 pressure ulcers were included. The mean age of the population was 64 ±17 years. The study revealed that 416 developed a stage 2 to 4 decubitus ulcer (3.3%). The total Braden score was shown to be highly predictive of decubitus ulcer development. The findings suggest that the total Braden scores alert clinicians to the need for more aggressive assessment of ICU patients at risk for decubitus ulcer

It was also supported by the study done by Fisher A.R et. al (2011)**.** Prevalence studies among 535 patients regarding pressure ulcers in adults in acute care settings at university teaching hospital, Canada and found the prevalence of pressure ulcers was 27% (at 95% confidence interval, 23-31%). Total Braden score below 17 and increasing age were significantly associated with the presence of pressure ulcers and also found majority of the risk factors are increasing age, less activity level, friction and shear while seated or lying down were associated with hospital-acquired pressure ulcers, only increasing age, friction and shear were associated with the presence of pressure ulcers in the whole sample.

Thus the stated Hypothesis H_4: There is a significant association between the level of decubitus ulcer risk among intervention Group I and Group II bedridden patients in Critical Care Unit with their selected socio demographic variables and clinical variables was accepted.

SUMMARY, CONCLUSION, IMPLICATIONS & RECOMMENDATIONS

CHAPTER – VI

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

This chapter narrates the summary of the study and the conclusion drawn. It also describes the implications for different areas like nursing education, nursing administration, nursing practice and nursing research. It provides the recommendations based on the study.

6.1 Summary

The present study was conducted to evaluate the effectiveness of Talc vs Olive Oil on prevention of Decubitus ulcer among bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai".

The objectives of the study were

1. To assess the level of Decubitus ulcer risk among intervention Group I and Group II bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai.
2. To evaluate the effectiveness of Talc on prevention of Decubitus ulcer among intervention Group I bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai.
3. To evaluate the effectiveness of Olive Oil on prevention of Decubitus ulcer among intervention Group II bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai.

4. To compare the effectiveness of Talc and Olive Oil on prevention of Decubitus ulcer among intervention Group I and Group II bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai.
5. To associate the level of Decubitus ulcer risk among intervention Group I and intervention Group II bedridden patients in Critical Care Unit with their selected socio demographic variables and clinical variables.

The following hypotheses were tested at 0.05 level

H_1: There is a significant difference between pretest and post test level of Decubitus ulcer risk among intervention group I bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai.

H_2: There is a significant difference between pretest and post test level of Decubitus ulcer risk among intervention group II bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai.

H_3: There is a significant difference in the post test level of decubitus ulcer risk between intervention group I and intervention group II bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai.

H_4: There is a significant association between the level of decubitus ulcer risk among intervention group I and group II bedridden patients in Critical Care Unit with their selected socio demographic variables and clinical variables.

Assumption of the study

✍ Bedridden Patients may have different risk level for developing decubitus ulcer

The conceptual framework adopted was Modified Orem's self care deficit theory. Quantitative approach - True-experimental, pre test post test design was adopted. The independent variable was Talc for intervention Group I and Olive Oil for intervention Group II and the dependent variable was Risk of Decubitus ulcers.

Probability simple random sampling technique was adopted to select 60 samples by picking up the available samples who fulfill the inclusion criteria during the period of data collection. The accessible population for the study was 60, bedridden patients admitted in Critical Care Unit at Government Rajaji Hospital, Madurai. Intervention carried out is application of talc/ olive oil while back massage on prevention of decubitus ulcer.

The tool used in this study consists of two sections.

Section I

A: Socio demographic variables

B: Clinical Variables

Section II

Modified European Pressure Ulcer Advisory Panel (EPUAP) grading system for decubitus ulcer

Content validity was obtained from five experts in the field of Medicine and Medical surgical nursing. Pilot study was conducted to find out the feasibility of the study and it did not show any major flaw in the design of the study. On the first day, after data collection with Modified European Pressure Ulcer Advisory Panel (EPUAP) grading system for decubitus ulcer, the level of decubitus ulcer risk assessed followed by back care with 8-10 gm of talc to Group I and 5-8 ml of olive oil to Group II while providing effleurage, vibration techniques of back massage for 10-15 minutes three times 7am,1pm,7pm respectively per day along with 2 nd hourly position changing, heel elevation on pillow for seven consecutive days to the bedridden patients. Post test was conducted on 8th day using same Modified European pressure ulcer Advisory Panel (EPUAP) grading system for decubitus ulcer. Data was collected for six weeks from 20.03.2017 to 30.04.2017and based on the objectives and hypothesis, data were analyzed using descriptive and inferential statistics.

6.2 Major findings of the study

- Regarding Age, wise distribution of subjects 6 (20%) were in less than 30 yrs of age, 31-40 & 41-50 yrs of age group patients were 4 (13.3%) and 5 (16.7%) and 8 (26.7%) were in 51-60 yrs, 7 (23.3%) of subjects were more than 60 yrs in Group I and 7 (23.3%) were in less than 20 yrs of age, 31-40 & 41-50 yrs of age group patients were 4 (13.3%) and 10 (33.4%) and 4 (13.3%) were in 51-60 yrs, 5 (16.7%) of subjects were more than 60 yrs in Group II.
- While discussing Gender, majority of bedridden patients 21(70%) were males and remaining 9 (30.0%) were females in Group I and 23(76.7%) were males and remaining 7 (23.3%) were females in Group II.
- With regard to Religion, majority of bedridden patients 28 (93.4%) were Hindu, 1 (3.3%) was Christian and remaining 1 (3.3%) was Muslim in Group I and 27(90.0%) were Hindu, 1 (3.3%) was Christian and remaining 2 (6.7%) were Muslim in Group II.
- While discussing Mother Tongue, majority of the bedridden patients 29 were speaking Tamil and remaining 1 (3.3%) was speaking Malayalam in Group I and 29 were speaking Tamil and remaining 1 (3.3%) was speaking Telugu in Group II.
- According to Education, majority of the bedridden patients 9 (30.0%) had secondary education , 8 (26.7%) were in primary education, 5 (16.7%) had non formal education, 4 (13.3%) were higher secondary education and 4 subjects were graduate in Group I and 10 (33.3%) had secondary education , 13 (43.3%) were in primary education, 2 (6.7%) had non formal education, 3 (10.0%) were higher secondary education and 2 (6.7%) subjects were graduate in Group II.
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- By seeing Occupation majority 14 (46.6%) were Daily wages, 9 (30%) were unemployed , 5 (16.7%) were self employed and 2 (6.7%) were graduate in Group I and 16 (53.3%) were Daily wages,8 (26.7%%) were unemployed , 5 (16.7%) were self employed and 1 (3.3%) were graduate in Group II
- While discussing Income, majority 12 (40.0%) were in the income of Rs.3001-6000, 10 (33.3%) were earning More than Rs.6000, 8(26.7%.0%) earns between Rs.1001-3000 in Group I and 17 (56.7%) were in the income of Rs.3001-6000, 9 (30.0%) were earning More than Rs.6000, 4 (13.3%.0%) earns between Rs.1001-3000 in Group II
- With regard to Marital status, majority of the bedridden patients 26 (86.7%) were married and 1 (3.3%)were unmarried and remaining 3 (10%) were widower in Group I and 26 (93.3%) were married and 2 (6.7%)were unmarried in Group II.
- By seeing Dietary pattern majority 28 (93.3%) were non vegetarian and remaining 2 (6.7 %) were vegetarian in Group I and 29 (96.7%) were non vegetarian and remaining 1 (3.3 %) were vegetarian in Group II.
- With regard to Personal habits, majority of bedridden patients 15 (50.0%) were smokers and alcoholics, 2 (6.7%) were smokers, 3 (10.0%) were alcoholics and 10 (33.3%) had no bad habits in Group I and18 (60.0%) were smokers and alcoholics, 2 (6.7%) were smokers, 2 (6.7%) were alcoholics and 8 (26.6%) had no bad habits in Group II
- Regarding Level of consciousness, majority of bedridden patients 14 (46.7%) were unconscious, 12 (40.0%) were conscious and remaining 4 (13.3%) were semi conscious in Group I and 13 (43.3%) were unconscious, 14 (46.7%) were conscious and remaining 3 (10.0%) were semi conscious in Group II
- With regard to Duration of bedriddeness, majority of bedridden patients 27

(90.0%) were less than 1 week and 3 (10.0%) were more than 1 week in Group I and 27 (90.0%) were less than 1 week and 3 (10.0%) were more than 1 week in Group II.

- ✍ While discussing Waist Hip Ratio, majority of the bedridden patients 20 (66.7%) were in the range of 0.95 or below (male)/ 0.80 or below (female) , 9 (30.0%) were between 0.96-1.0/ 0.81-0.85 and remaining 1 (3.3%) were between More than 1/ more than 0.85 in Group I and 16 (53.3%) were in the range of 0.95 or below (male)/ 0.80 or below (female) , 8 (26.7%) were between 0.96-1.0/ 0.81-0.85 and remaining 6 (20.0%) were between More than 1/ more than 0.85 in Group II.
- ✍ According to Skin turgor, majority of the bedridden patients 17 (56.7%) had poor skin turgor, 13 (43.3%) had fair skin turgor in Group I and 18 (60.0%) had poor skin turgor, 11 (36.7%) had fair skin turgor and remaining 1 (3.3%) had good skin turgor in Group II
- ✍ By seeing Incontinence majority 18 (60.0%) had no incontinence, 10 (33.3%) had fecal incontinence and remaining 2 (6.7%) had urinary incontinence in Group I and 22 (73.3%) had no incontinence, 7 (23.3%) had fecal incontinence and remaining 1 (3.3%) had urinary incontinence in Group II
- ✍ While discussing Mobility, majority 15 (50.0%) had complete mobility limitation, 13 (43.3%) had very limited mobility, 2 (6.7%.0%) had slight limited mobility in Group I and 17 (56.7%) had complete mobility limitation, 13 (43.3%) had very limited mobility in Group II.
- ✍ With regard to Co-morbidity , majority of the bedridden patients 8 (26.7%) were diabetes, 7 (23.3%) were hypertensive, 7 (23.3%) were hypertensive and diabetes and remaining 8 (10%) had no co-morbidity in Group I and 5 (16.7%) had

diabetes, 7 (23.3%) were hypertensive, 6 (20.0%) were hypertensive and diabetes in Group II

- By seeing Elevation of head of bed majority 11 (36.7%) had 30^0 elevation, 10 (33.3%) had 15^0 elevation, 1(3.3%) had 45^0 elevation and remaining 8 (6.7 %) had completely flat in Group I and 9 (30.0%) were 30^0 elevation, 11 (36.7%) had 15^0 elevation, and remaining 10 (33.3%) had completely flat in Group II.
- In Group I, the pretest mean risk score was 8.90 with standard deviation of 2.35 and the mean post test risk score was 6.67 with standard deviation of 3.09. The mean difference is 2.23. The obtained student Paired "t" test value was 3.55 which was significant at $p < 0.001$ level. This revealed that there was a significant difference in the mean risk scores between the pretest and posttest. The difference was due to the intervention, application of talc while back care. Hence this study proved that the talc was effective in reducing the risk of decubitus ulcer among bedridden patients.
- In Group II, the mean pretest risk score was 9.43with standard deviation of 1.73 and the mean post test risk score was 5.70 with standard deviation of 3.29. The mean difference is 3.73. Percentage of mean score in the Pre test was 15.7% and in the Post test was 34.0%. The obtained student Paired "t" test value was 5.59 which was significant at $p < 0.001$ level. This revealed that there was a significant difference in the mean risk scores between the pretest and posttest. The difference was due to the intervention, application of olive oil while back care. Hence this study proved that the olive oil was very effective in reducing the risk of decubitus ulcer among bedridden patients.
- While comparing the risk reduction score, Talc group patients reduced 14.9% score and Olive oil 24.9% reduced score. This percentage of difference 24.9%-

14.9% =10% reduction shows Olive oil application is the more beneficial method than Talc.

- ✍ The above results proved clearly that the intervention olive oil back care was very effective in reducing the risk of decubitus ulcer risk among bedridden patients in Critical Care Units.
- ✍ In the post test there was a significant association between the level of decubitus ulcer risk and selected socio demographic variables such as age those who are < 30 years (F= 2.74 P-0.05) and gender who are female (F= 2.04 P=0.05) and the clinical variables such as Level of consciousness those who are conscious (F=3.54 P=0.05) and mobility , whose mobility were completely limited (F=3.36 P=0.05) among Group I bedridden patients.
- ✍ In Group II, significant association between the level of decubitus ulcer risk and selected socio demographic variables such as age those who are < 30 years (F= 3.34 P=0.05)and gender who are female (F= 2.05 P=0.05) and the clinical variables such as Level of consciousness those who are conscious (F=3.44 P=0.05) and mobility , whose mobility were completely limited (F=2.01 P=0.05) among bedridden patients. Other variables had no significant association with level of decubitus ulcer risk.

6.3 Conclusion:

The Statistical evidence proved that the back care with Talc and Olive oil were effective in reducing the risk of decubitus ulcer among bedridden patients. While comparing the effectiveness of both, Olive oil was very effective in reducing the risk of decubitus ulcer among bedridden patients admitted in Critical Care Units. Hence the researcher concluded that the back care with olive oil can be provided among bedridden patients.

6.4 Implications:

The investigator had drawn several implications from this study for various areas such as nursing practice, nursing education, nursing administration and nursing research.

6.4.1 Implications for nursing practice

- Bed side nurses should take responsible for the skin assessment, decubitus ulcer risk level assessment and enhancement of back care for the critically ill patients
- Back care incorporating olive oil can be followed as it is effective in reducing the risk level of decubitus ulcer among bedridden patients in Intensive care unit.
- Critically ill patients skin assessment, decubitus ulcer risk level assessment should be considered as a part of the daily assessment.

6.4.2 Implications for nursing education

- Educate that good back care is essential to reduce the risk of decubitus ulcer in the critically ill patients
- Effective back care is important for the critically ill patients in Intensive care unit to reduce the risk of decubitus ulcer.
- The frequency of back care is an area of controversy and may depend according to the patient's condition.
- Olive oil practice can be added in Nursing standardization.

6.4.3 Implications for nursing research

This study can be the baseline for future studies to build upon and motivate

- A study can be done with large samples and also for long duration.
- A study can be done with other emollient and effectiveness can be analyzed in reducing the risk of decubitus ulcer.

- ✍ Research is also need to determine the impact of decubitus ulcer on patient's outcome.

6.4.4 Implications for nursing administration

- ✍ Administrator should pay special attention to new as well as student nurse to educate and evaluate their back care procedure in the critical care units.
- ✍ Administrator can encourage the nurses to assess the risk level of decubitus ulcer of all the patients and make it as one of the assessment procedure.
- ✍ Articles and materials needed for providing back care must be made available by the Administrative department.
- ✍ Nursing Administrator can formulate protocols to incorporate the olive oil back massage.
- ✍ In service education programme can be conducted to disseminate the research findings for better practice.
- ✍ Check list can be prepared for back care for nursing outcome evaluation.

6.5 Recommendations:

- ✍ A similar study can be replicated with larger sample for better generalization
- ✍ A comparative study can be done between olive oil back massage and any other emollient to evaluate the best.
- ✍ A study can be conducted to assess the knowledge, attitude and practice of nursing staff regarding back care.
- ✍ A similar study can be conducted in long term care and home care units.
- ✍ A similar study can be done in large scale as longitudinal study.

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11. http://www.bradenscale.com.braden.pdf

APPENDICES

APPENDIX – I

Letter seeking permission to conduct the study in Critical Care Units, Government Rajaji Hospital, Madurai

From

C. Iyammal,
II year M.Sc (N),
College of Nursing,
Madurai Medical College,
Madurai-20

To

Head Of the Department,
Department of Medicine,
Govt.Rajaji Hospital,
Madurai Medical College,
Madurai.

Through: the proper channel

Respected sir,

Sub: Requesting permission to conduct a Dissertation study – regarding.

As per the Curriculum recommended by the Indian Nursing Council and the Tamilnadu Dr. M.G.R. Medical University, all the M.Sc Nursing Students are required to conduct a dissertation study for the partial fulfillment of the course.

I have selected a study topic "Evaluate the effectiveness of Talc vs Olive Oil on prevention of Decubitus ulcer among bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai". For my dissertation, I would like to select patients from the Critical Care Unit.

So, kindly I request you to consider my request and allow me to conduct the study in your esteemed Department.

Thanking you.

Date: 14.02.2017
Madurai.

Yours sincerely,

PROFESSOR AND HEAD
DEPARTMENT OF MEDICINE
MADURAI MEDICAL COLLEGE
MADURAI-625 020.

APPENDIX – II

Ethics committee approval letter

MADURAI MEDICAL COLLEGE
MADURAI, TAMILNADU, INDIA -625 020
(Affiliated to The Tamilnadu Dr.MGR Medical University, Chennai, Tamil Nadu)

Prof Dr V Nagaraajan MD MNAMS DM (Neuro) DSc.,(Neurosciences) DSc (Hons)
Professor Emeritus in Neurosciences, Tamil Nadu Govt Dr MGR Medical University
Chairman, IEC

Dr.M.Shanthi, MD.,
Member Secretary,
Professor of Pharmacology,
Madurai Medical College, Madurai.

Members

1. Dr.K.Meenakshisundaram, MD (Physiology)Vice Principal, Madurai Medical College

2. Dr.Sheela Mallika rani, M.D., Anaesthesia , Medical Superintendent Govt. Rajaji Hosptial, Maudrai

3.Dr.V.T.Premkumar,MD(General Medicine) Professor & HOD of Medicine, Madurai Medical & Govt. Rajaji Hospital, College, Madurai.

4.Dr.D.Maruthupandian, MS., Professor & H.O.D. Surgery, Madurai Medical College & Govt. Rajaji Hosptial, Madurai.

5.Dr.G.Meenakumari, MD., Professor of Pathology, Madurai Medical College, Madurai

6.Mrs.Mercy Immaculate Rubalatha, M.A., B.Ed., Social worker, Gandhi Nagar, Madurai

7.Thiru.Pala.Ramasamy, B.A.,B.L., Advocate, Palam Station Road, Sellur.

8.Thiru.P.K.M.Chelliah, B.A., Businessman,21, Jawahar Street, Gandhi Nagar, Madurai.

ETHICS COMMITTEE CERTIFICATE

Name of the Candidate	:	C.Iyammal
Course	:	M.Sc., Nursing (Medical surgical Nursing)
Period of Study	:	2015 - 2017
College	:	MADURAI MEDICAL COLLEGE
Research Topic	:	A study to evaluate the effectiveness of Talc vs Olive oil on prevention of decubitus ulcer among bedridden patients in Critical Care Unit, Govt. Rajaji Hospital, Madurai..
Ethical Committee as on	:	08.02.2017

The Ethics Committee, Madurai Medical College has decided to inform that your Research proposal is accepted.

Member Secretary Chairman Dean / Convenor

DEAN
Madurai Medical College
Madurai-20

Prof Dr V Nagaraajan
M.D., MNAMS, D.M., Dsc.,(Neuro), Dsc (Hon)
CHAIRMAN
IEC - Madurai Medical College
Madurai

APPENDIX III

CONTENT VALIDITY CERTIFICATE

This is to certify that the tool

SECTION : A Demographic Data

SECTION : B Clinical variables

SECTION : C Modified European Pressure Ulcer Advisory Panel (EPUAP) grading system for decubitus ulcer

Prepared for data collection by Mrs. C. Iyammal II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai, who has undertaken the study field on thesis entitled "A study to evaluate the effectiveness of Talc versus Olive Oil on prevention of Decubitus ulcer among bedridden patients in Critical Care Unit, Govt. Rajaji hospital, Madurai", has been validated by me.

SIGNATURE OF THE EXPERT :
NAME :
DESIGNATION :
ADDRESS :

14/3/17.
Dr. S. CHANDRAKALA.
Principal.
Principal
Velammal College of Nursing
Madurai-625 009

DATE :

CONTENT VALIDITY CERTIFICATE

This is to certify that the tool

SECTION : A Demographic Data

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SIGNATURE OF THE EXPERT : ANDAL P

NAME : Professor

DESIGNATION : Sacred Heart Nursing College

ADDRESS : Madurai

DATE : 4.3.17

SACRED HEART NURSING COLLEGE
THAGILDAR NAGAR
MADURAI-20.
4/286, COLLEGE ROAD

CONTENT VALIDITY CERTIFICATE

This is to certify that the tool

SECTION : A Demographic Data

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SIGNATURE OF THE EXPERT :

NAME : SAKTHI BHARATHI. N

DESIGNATION : Assoc. Professor

ADDRESS : SACRED HEART NURSING COLLEGE, ULTRA TRUST, MADURAI

DATE : 6/3/17.

SACRED HEART NURSING COLLEGE
THASILDAR NAGAR
MADURAI-20.
1/285, COLLEGE ROAD

CONTENT VALIDITY CERTIFICATE

This is to certify that the tool

SECTION : A Demographic Data

SECTION : B Clinical variables

SECTION : C Modified European Pressure Ulcer Advisory Panel (EPUAP) grading system for decubitus ulcer

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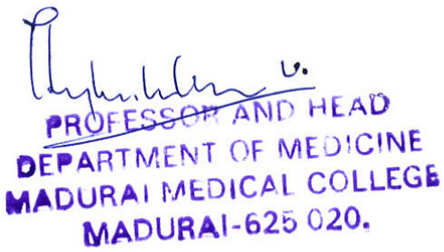
SIGNATURE OF THE EXPERT :
NAME :
DESIGNATION :
ADDRESS :



DATE

APPENDIX - IV

CONSENT FORM

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±Éì Ì þó¾ ¬ö¨Åô ÀüÈ‹Â ÓØ Å‹ÅÃõ Å‹Çì¸Á¡¸ ±Îò Ð¨Ãì¸ôÀð¼Ð. þó¾ ¬ö Å‹ø Àí Ì ¦ÀÚÅ¾ø ¯ûÇ ¿ý¨Á¸û ÁüÚõ ¾¨Á¸û ÀüÈ‹ ¿¡ý Ò¡‹óÐ¦¸¡ ñ§¼ý. ¿¡ý þó¾ ¬ö Å‹ø ¾¡É¡¸§Å Óý ÅóÐ Àí Ì ¦ÀÚ¸‹§Èý. §ÁÖõ ±Éì Ì þó¾ ¬ö Å‹ø þÕóÐ ±ó¾ §¿ÃÓõ Å‹Ä¸‹ì ¦¸¡ûÇ ÓØ «ÛÁ¾ ÅÆí¸ôÀð Îû ÇÐ. ±ý Û¨¼Â º‹¸‹î¨º ¬Å½ í¸¨Çô À¡÷¨ÅÂ‹ð Î «¾‹ø ¯ûÇ Å‹ÅÃí¸¨Ç ¬ö Å‹ø ÀÂýÀÎ¾‹ì ¦¸¡ûÇ «ÛÁ¾ «Ç‹ì¸‹§Èý. ±ý Û¨¼Â ¦ÀÂ÷ ÁüÚõ «¨¼ÂÇí¸û Ã¸º‹ÂÁ¡¸ ¨ÅòÐì ¦¸¡ûÇôÀÎõ±ýÚõ±Éì Ì ¯Ú¾‹ÂÇ‹ì¸ôÀð Îû ÇÐ.

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APPENDIX - V

SECTION I -A

SOCIO DEMOGRAPHIC DATA

NAME: **DATE:**

WARD: CRITICAL CARE UNIT **SAMPLE NO:**

1. **Age** **[ ]**
    a) Less than 30
    b) 31-40yrs
    c) 41-50yrs
    d) 51-60yrs
    e) More than 60 yrs
2. **Gender** **[ ]**
    a) Male
    b) Female
3. **Religion** **[ ]**
    a) Hindu
    b) Christian
    c) Muslim
    d) Others
4. **Mother Tongue** **[ ]**
    a) Tamil
    b) Malayalam
    c) Telugu
    d) Others
5. **Educational qualification** **[ ]**
    a) Non formal education
    b) Primary education
    c) SSLC
    d) HSC
    e) Graduate

6. Occupation **[ ]**

a) Un employee
b) Self employee
c) Daily wages
d) Govt. employee

7. Family Monthly Income **[ ]**

a) < Rs.1000
b) Rs.1001-3000
c) Rs.3001-6000
d) > Rs.6000

8. Marital status **[ ]**

a) Un married
b) Married
c) Divorcee
d) Widow/widower

9. Dietary patter **[ ]**

a) Vegetarian
b) Non-vegetarian

10. Habits **[ ]**

a) Smoking
b) Alcoholism
c) Smoking & Alcoholism
d) Tobacco using
e) None

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SECTION B

Observation check list-Clinical variables

1. **Level of consciousness** [ ]
    a) Conscious (GCS : 12-15)
    b) Semi conscious (GCS : 8-11)
    c) Unconscious (GCS : 3-7)
2. **Duration of bedriddeness** [ ]
    a) Less than 1 week
    b) More than 1 week
3. **Waist to hip ratio** [ ]
    a) 0.95 or below (male)/ 0.80 or below (female)
    b) 0.96-1.0/ 0.81-0.85
    c) More than 1/ more than 0.85
4. **Skin turgor** [ ]
    a) Good
    b) Fair
    c) Poor
5. **Incontinence** [ ]
    a) Urinary incontinence
    b) Fecal incontinence
    c) None
6. **Mobility** [ ]
    a. Completely limited
    b. Very limited
    c. Slightly limited
    d. No limitation
7. **Co morbidity** [ ]
    a) Diabetes
    b) Hypertension
    c) Diabetes and Hypertension
    d) None

8. Elevation of head of bed [ ]

a) Completely flat

b) 15^0

c) 30^0

d) 45^0

e) 60^0

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SECTION- II

Modified European pressure ulcer Advisory Panel (EPUAP) grading system for decubitus ulcer

Grade I	Warmth, Intact skin with non-blanchable redness, purplish/bluish colour, Edema (non pitting swelling), taut and shiny skin.
Grade II	Partial thickness loss of dermis presenting as a shallow open ulcer with a red pink wound bed, without slough. May also present as an intact or open/ruptured serum - filled or sero-sanginous filled blister

Modified Grade- I Decubitus Ulcer –Scoring

S.NO	DESCRIPTION	SCORE
1.	WARMTH	1
2.	INTACT SKIN WITH NON-BLANCHABLE REDNESS	2
3.	PURPLISH/BLUISH DISCOLOURATION OF THE SKIN	3
4.	EDEMA	4
5.	TAUT AND SHINY SKIN	5
	TOTAL SCORE	**15**

Low risk : 1-5

Moderate risk : 6-10

High risk : 11-15

APPENDIX VII

CERTIFICATE OF ENGLISH EDITING

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the dissertation by **C. IYAMMAL,** II year M.Sc (N), College of Nursing, Madurai Medical College, Madurai, who has undertaken the study field on dissertation entitled **"A STUDY TO EVALUATE THE EFFECTIVENESS OF TALC VERSUS OLIVE OIL ON PREVENTION OF DECUBITUS ULCER AMONG BEDRIDDEN PATIENTS IN CRITICAL CARE UNIT, GOVT. RAJAJI HOSPITAL, MADURAI",** has been edited for English language appropriateness.

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CERTIFICATE OF TAMIL EDITING

TO WHOM SO EVER IT MAY CONCERN

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APPENDIX –IX

BACK CARE PROCEDURE

Definition of back care

Back care is defined as cleaning and massaging an individual's back as a therapeutic and comfort measure.

Back care with talc

Back care is a nursing intervention given for around 10-15 mts with use of 8-10 gm of ponds talcum powder to group I while effleurage, vibration techniques of back massage along with 2nd hourly position changing, heel elevation on pillow in order to reduce the risk of decubitus ulcer.

Back care with olive oil

Back care is a nursing intervention given for around 10-15 mts with use of 5-8 ml of olive oil to group II while effleurage, vibration techniques of back massage along with 2nd hourly position changing, heel elevation on pillow in order to reduce the risk of decubitus ulcer.

Purposes of back care

- To give comfort to the client
- To keep the skin clean and dry
- To refresh the patient and relieve fatigue
- To promote rest and sleep
- To stimulate circulation
- To relieve pressure from pressure points and to change position
- To detect early signs of bedsore
- To prevent bedsore

Principles of back care

- ✓ Massage should proceed by cuadocephalic direction
- ✓ Stroke should be rhythmic
- ✓ Do not take the hands off from patient's back till end of the procedure

General instructions

- Explanation to be given to all patient's relatives
- Back care should be followed by change of position
- Observation of skin during back care promotes early detection of pressure sores
- Comfort devices to be used after back care

Articles required

Articles	Purposes
Screen	To provide privacy
Mackintosh with cover	To protect bed linen
Fresh bed linen and patient's clothing	To change if required
A tray containing A small basin	To take warm water
Sponge cloth	To wash with soap and water
Soap dish with soap	To clean the skin
A towel	To dry the skin
Powder /Olive oil	To reduce friction.
Extra pillow	To elevate the heel and support the back

Preparation of the patient

- Assess the need for back care in the patient
- Explain the procedure to the patient
- Provide privacy by placing a screen

Procedure of talc/olive oil back care

STEPS OF PROCEDURE	RATIONALE
Keep the patient in lateral position	For easy access to back
Expose the patient's back, shoulders, upper arms and buttocks. Cover the remaining exposed area with a sheet. Spread mackintosh and towel alongside the patient's back.	To prevent unnecessary exposure of body parts. To prevent soiling of bed linen
Wash hands in warm water	To make the touch comfortable for the patient as cold changes muscle tension
Wash back with mild soap thoroughly from cervical spine to coccyx, wash off the soap and dry	To clean the back
Apply 8-10 gm of ponds talcum powder to group I and 5-8 ml of olive oil to group II all over the back. Apply hands first to sacral area massaging in circular motion. Stroke upward from buttocks to shoulders. Massage over scapulae with smooth, firm strokes. Continue in one smooth stroke from upper back to arm and laterally alongside of back, down to iliac crests. Do not take the hands off from patient's back till end of the procedure. Continue massage pattern for at least 3 mts (effleurage). A rhythmic stroke applied with the use of fingertips to entire back in cuadocephalic direction (vibration) same as effleurage.	To keep the skin dry. It reduces friction. To keep the skin smooth Gentle, firm pressure applied to all muscle groups promotes relaxation. Continuous contact with skin surface in soothing and stimulates circulation to tissues.

Turn the patient to opposite side and massage other hip	
Remove the soiled mackintosh and towel, put the patient's cloth.	Promotes infection control and provide refreshment
Keep the patient in comfortable position	Comfortable position enhances back rub's effects
Elevation of heels with pillow	To prevent heel ulcer
Raise side rails as needed and remove screen	Prevents the patient from falling and for easy visualize the patient
Replace all the articles after discarding the waste, and wash hands	To prevent cross infection
Record date, time and condition of the skin	To have proper documentation

APPENDIX-X

PHOTOGRAPHS

BACK CARE WITH TALC

BACK CARE WITH OLIVE OIL